TP 3989E

BUS DESIGN FOR REMOTE AREA APPLICATIONS

"PREPARED FOR TRANSPORT CANADA
TRANSPORTATION DEVELOPMENT CENTRE"

by

Hovey & Associates (1979) Ltd
2378 Holly Lane
Ottawa, Ontario
K1V 7P1

October 1982

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L.B. Walker
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The contents of this report reflect the views of the contractor and not necessarily the official views or policies of the Transportation Development Centre of Transport Canada.

PROJECT TEAM

The project team for Hovey & Associates (1979) Ltd. was composed of:

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17. Abstract

The "Canuck" model P-41 intercity bus is reputed to have had exceptional durability and maintainability, qualities which made it uniquely suited to harsh northern environments. The study reported here identifies the features which made the design so successful and explores the possibility of producing a new bus with similar characteristics. Findings are based primarily on discussions with experienced operators and inspection of vehicles still in use.

The Canuck is no longer in production, no drawings or tooling are known to exist, and the manufacturer, Flyer Industries, now builds only transit buses. Nevertheless it appears feasible to regenerate this bus and produce it for application in the Canadian north and in developing countries. The design would remain essentially unchanged except that materials would be improved to resist corrosion, and drive-train components would be updated.

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17. Résumé

D'après tous les témoignages recueillis par le contractant, l'autocar P-41, produit de la société Flyer Industries, jouissait d'une durabilité et d'une maintenabilité tout à fait exceptionnelles. Ce véhicule, surnommé le "Canuck", était tout désigné pour affronter les rigueurs de l'environnement et les routes peu carrossables des régions reculées du Nord. Ce rapport présente les caractéristiques techniques qui ont permis à ce véhicule de si bien résister dans cet environnement et explore la possibilité de produire un autocar ayant des qualités comparables.

Flyers Industries a abandonné la production du Canuck depuis un certain temps déjà, concentrant ses activités dans le secteur des autobus urbains, et il semble que les plans du P-41 et l'outillage nécessaire à sa fabrication n'existent plus. Cela ne veut pas dire pour autant qu'il est impossible de recréer ce véhicule et d'en relancer la production pour le marché du Grand nord canadien et celui des pays du Tiers-Monde. Le concept de base resterait essentiellement le même, à l'exception des matériaux de fabrication et des composants de la chaîne de traction, qui devraient offrir respectivement une meilleure résistance à la corrosion et une conception bénéficiant des progrès technologiques accomplis depuis.

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FOREWORD

The Canuck bus, designed and built by Flyer Industries of Manitoba in the mid 1950's, operated very successfully over gravelled roads in the Canadian West and North having been tailored to these rigorous operating conditions. It was normal for these vehicles to last at least 20 years and to exceed one million miles.

The rugged frame and simple suspension were reported to be the principal design elements responsible for its excellent reputation. It is the opinion of many who are familiar with the Canuck, that currently-produced buses do not stand up as well in severe conditions.

An evaluation of the features of the Canuck and of the possibility of producing a new bus based on the Canuck was therefore desirable and is the object of this study.

SUMMARY

The study confirmed that the Canuck bus model P-41 (some still in service) has characteristics of ruggedness and simplicity which make it uniquely suitable for operating in a harsh environment such as the developing parts of Canada and developing countries.

There appears to be a market for such a product which is not at present filled by modern coaches which are not tailored to these conditions.

A preliminary cost estimate is encouraging to the idea of revitalizing the Canuck. A unit selling price of $150,000, a market of 200 units minimum, and a $1,000,000 development cost are envisaged, (not including preliminary studies such as the present Phase I).

Although engineering and tooling are not available, there would appear to be no technical difficulty in redeveloping this vehicle for to-day's market.

Since this study was necessarily restricted in scope, a more exhaustive Phase II to include a market survey, engineering definition and cost estimate is recommended.

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Appendix A
Coachways System Operations Summary

Appendix B
Prevost Car "Champion" Coach, as supplied to Cassiar Asbestos

1. INTRODUCTION

It became evident to Dr. Brian Sullivan of the Government of Alberta that there appeared to be no successor vehicle to the now-ancient Canuck buses which had operated so successfully in the Canadian West, Yukon and Northwest Territories, and northern British Columbia. Having been Assistant Marketing Manager for Coachways System he was personally aware of the qualities of the Canuck, an inter-city coach built by Flyer Industries of Winnipeg. As Alberta Deputy Minister of Economic Development, in charge of Transportation Services and Economic Planning, he drew this to the attention of Mr. Peter Eggleton, Director of the Transportation Development Centre in Montreal.

Dr. Sullivan was convinced that the Canuck had outstanding qualities of strength, ruggedness, simplicity, and durability which made it uniquely suited to the arduous conditions encountered in the Northwest.

This opinion was, however, confined to the early models of the Canuck. More specifically, it applied to the model P-41, a rear-engined, diesel-powered coach, seating 41 passengers. Its predecessor, the T-40, generally referred to as"the Flyer Standard", was a front-engine, gasoline-powered, 40 passenger unit.

Subsequent to these models, Flyer Industries produced two other models, the 500 and the 600. Neither of these possessed the ruggedness and enduring characteristics of the "standard Canuck" and the P-41. Only a small number were built, which were delivered to Saskatchewan Transportation and Grey Goose Lines. They were never really "debugged", and are reported to have had structural weaknesses.

Subsequently, Flyer Industries stopped building coaches to concentrate on transit buses. They apparently disposed of all records and tooling for the Canuck at that time.

The principal builders of coaches are now GMC, (General Motors), MCI (Motor Coach Industries) and Prevost Car. None of them builds a vehicle like the P-41, and it is the opinion of those who know their characteristics that the modern products cannot compare with the P-41 when it comes to ruggedness, durability, dependability, and simplicity.

The persons concerned were all at one time employed by Coachways System, with senior responsibilities in general management, marketing, operations, and service. Their unanimous opinion is that the Canuck was and is still "the best bus ever built."

The Coachways System routes included some of the roughest routes in the north. Canucks were used for rough gravel roads, with other makes confined mostly to paved roads. Among them were sections of the Alaska Highway from Dawson Creek to Whitehorse, Whitehorse to Dawson City, Whitehorse to Anchorage, Peace River to Yellowknife, Edmonton to Fort McMurray.

In view of this Dr. Sullivan felt that the possiblity of revitalizing the Canuck should be explored. It was thought that there was still a Canadian market for a rugged bus, and that it could also serve a Third World Market.

Transportation Development Centre agreed that this was potentially worthwhile and undertook to study the question.

A contract was awarded to Hovey and Associates (1979) Ltd to carry out the present study.

2. OBJECTIVES OF THE STUDY

(i.) Evaluation of the Canuck design to identify the features which made it so successful.

(ii.) Consideration of the changes which should be incorporated in such a vehicle for production today.

(iii.) Estimate of the cost of production for a range of production rates.

(iv.) Assessment of the pros and cons of pursuing (a) the development of a new 'Canuck' design, (b) simply re-opening a production line or (c) abandoning the idea of producing a rugged bus for a harsh environment.

3. PROCEDURE

The first step was to contact Flyer Industries in Winnipeg to determine whether any drawings, specifications, tooling or pictures were available.

Flyer were quite co-operative, but they advised that nothing was available since everything had been disposed of when they abandoned building coaches to concentrate on transit buses.

It was established by Mr. Brian Marshall, Project Officer for TDC, through Dr. Sullivan, that a Canuck bus now owned by Rent-A-Bus was available in Victoria, British Columbia. Also the names of persons having experience with the Canuck were obtained, they included:

Mr. Charles Spratt, formerly General Manager of Coachways System.
Mr. Peter Deurloo, formerly Service Manager of Coachways System.
Mr. Bill Wasylyshyn, also a former Service Manager and successor to Mr. Deurloo.

On September 20, 1982, L.B. Walker proceeded to Victoria, and contacted Mr. Walter Hawrylenko, of A.D.O.C. Rent-a-Bus, who owns three Flyers. Mr. Hawrylenko was most helpful, making all three units available for inspection and photographing.

There were two model T-40 Flyer Standard, with front-engine and five-speed transmissions. One bore a 1967 nameplate. They were slightly different from each other, but of a military type, according to Mr. Hawrylenko. The third unit, the P-41 was a Flyer Canuck rear-engined diesel powered unit whose nameplate showed 1961 as the date of manufacture. (See figure 1).

The following day, September 21, 1982, the P-41 was taken to the service garage of Pacific Coach Lines and put on a hoist for closer examination.

It happened that a later model Canuck, a PCL model 600, was in the garage for major repairs to the lower structure which had been badly corroded. This coach was also examined carefully. Mr. Peter Deurloo is now Service manager of PCL. He and Mr. Walter Hawrylenko were interviewed concerning the performance of all the Canuck models.

Figure 1 Canuck P-41 Bus

The next day, September 22, 1982, L.B. Walker went to Vancouver, and met with Mr. Charles Spratt, who is now Executive Director of the ALRT (Advanced Light Rapid Transit) system now under construction. Mr. Spratt was able to speak from 11 years experience at Coachways System with the Canuck.

The following day, September 23, 1982, L.B. Walker proceeded to Edmonton, there to meet with Dr. Brian Sullivan and Mr. Bill Wasylyshyn, the latter now of Greyhound Lines of Canada Ltd. Dr. Sullivan produced a schedule of Coachways System operation and was able to identify the principal routes which were assigned to the Canuck fleet. (Appendix A)

The timetable was analysed and the routes identified on road maps which confirmed that they were gravel and secondary roads. From the distances and periods of operation, the number of buses required and the annual mileage were estimated. This analysis is included as Appendix A.

Each person contacted was asked whether any documentation was available for the P-41, such as service manuals, specifications or operating costs. None was forthcoming.

The only P-41 available for inspection was an operational Rent-a-Bus vehicle. It was not possible to view the structure since it was entirely enclosed.

Prevost Car was contacted to determine whether a current manufacturer could and would produce a similar vehicle. They do not build a bus as small as the P-41 but one larger coach (an eight-wheel unit, with "tag" axle) based on their "Champion" model, is operating on rough roads, with approximately 800,000 km of service, delivered in 1976 to Cassiar Asbestos in British Columbia. This unit has air suspension.

4. FEATURES WHICH MADE THE CANUCK SO SUCCESSFUL

4.1 Frame

The structure is composed of steel tubular members, to which aluminum skins are fastened. They are believed to be 1½ x1½ in. section. Steel tubes are easy to cut, fit and weld in place. Diagonal members are fitted as required, giving exceptional rigidity to the structure. This is considered to be an essential feature to obtain a good performance on rough roads. The integral structure would also simplify repair work, since there would be no danger of distortion when the skins were removed.

It will be noted that the skins are attached with single rows of fastenings. A stressed-skin concept would, in all probability, use double rows. Canadian Car buses, for example, used stressed skin construction, and invariably, double rows of rivets were used. The skins, by their very presence, reinforce the structure; but if there is structural integrity without the skins, the fastenings serve primarily to hold the skins in place. The added strength which the skins impart, is then a bonus. According to Coachways ex-service manager Mr. Peter Deurloo, the skins were attached, originally, with self-tapping screws. When they inevitably loosened up, they were replaced with blind rivets, during routine servicing and repair.

The strength of the frame is unquestionably the principal feature which made the Canuck so successful. The model P-41 is considered to be the "best bus ever built" by those who owned and operated them.

This is based upon experience with the successors to the P-41, the Flyer 500 and 600 models. Also, fleets such as Coachways, Saskatchewan Transportation Company, and Grey Goose operated Canucks side by side with current technology GM coaches (PD4107 and PD4903) and MCI Challengers (MC5A and MC7). In 1966 Coachways ordered both Canucks and the latest GM split levels, each for a particular service application.

The Flyer model 500 bears the reputation of being too lightly built. In particular, the frame over the rear axle was weak and ultimately sagged. Nor was the next model, 600, considered to be any better. Both were usually consigned to smooth road operations. Pacific Coach Lines recently had a model 600 in for major structural repair.

Photographs are included of the underbody framing. All the tubular members shown had just been replaced because of corrosion. (See figure 2).

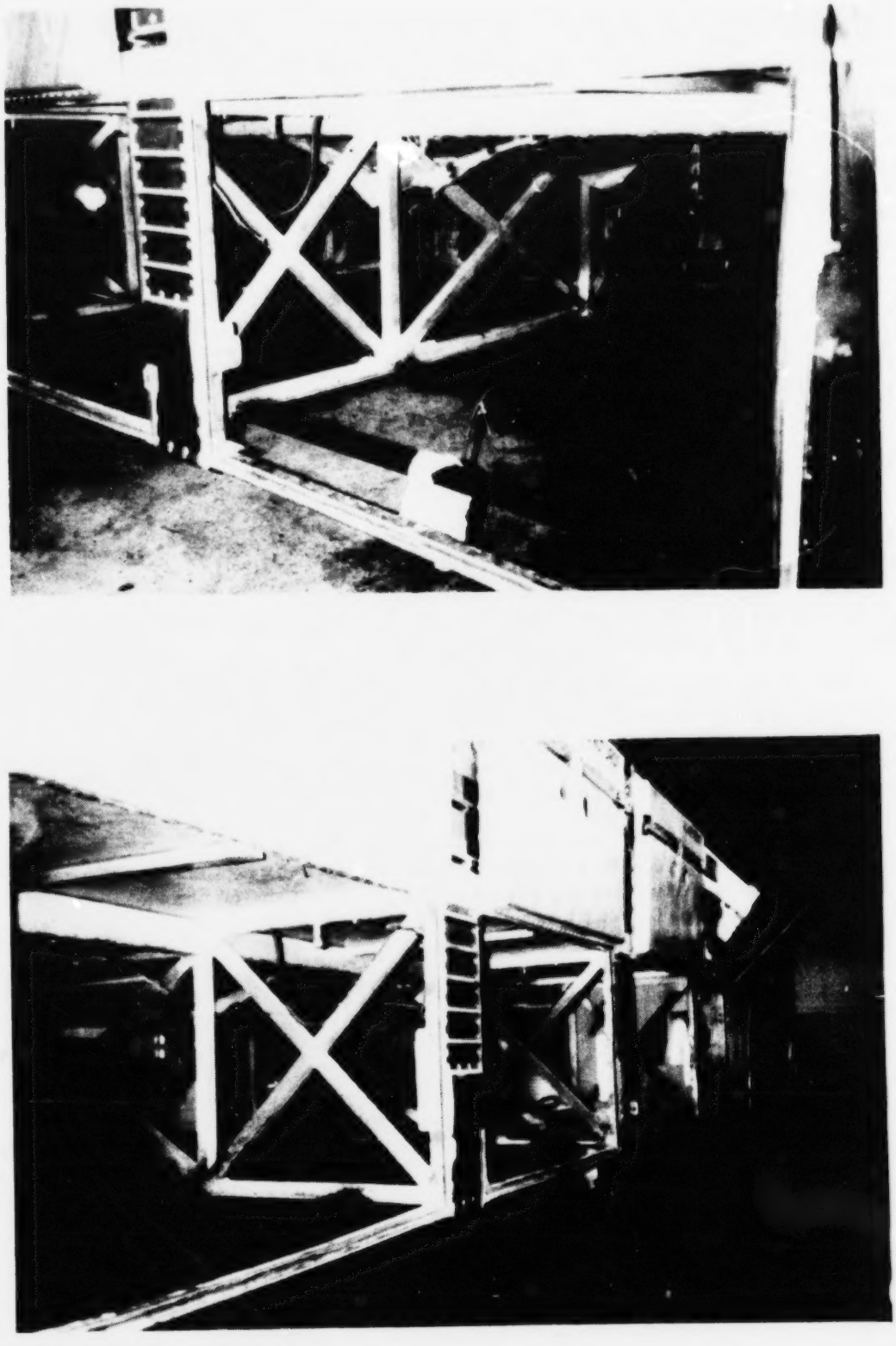


Figure 2 Canuck 600 Structural Repair

From comparison of the photographs of the Canuck and the model 600 it can be seen that the 600 structure has been drilled for attaching the inner lining of the baggage compartment, making it similar to the Canuck. There is no apparent reason why the Canuck should be better with respect to corrosion. Nevertheless, it enjoys a better reputation, the reason for which is not evident. Perhaps it is simply that the environment where they were used is less corrosive.

Certainly it is desirable to close the structural square tubing at the ends in order to prevent ingress of moisture and air. The Canuck P-41 and the Flyer 600 both seem to have this feature. It would also be desirable to use high tensile low alloy grades of steel, which have a corrosion resistance of from 2 to 7 times (for Cor-ten) that of mild steel. It is only possible to speculate on what materials were used by Western Flyer.

The life of transportation vehicles was often considered to be 15 years for purposes of depreciation. The better built vehicles usually were capable of 20 years operation. However, it is certainly true that corrosion has been in the past, and is still, a major problem. Bus service departments routinely rebuild and refurbish their vehicles.

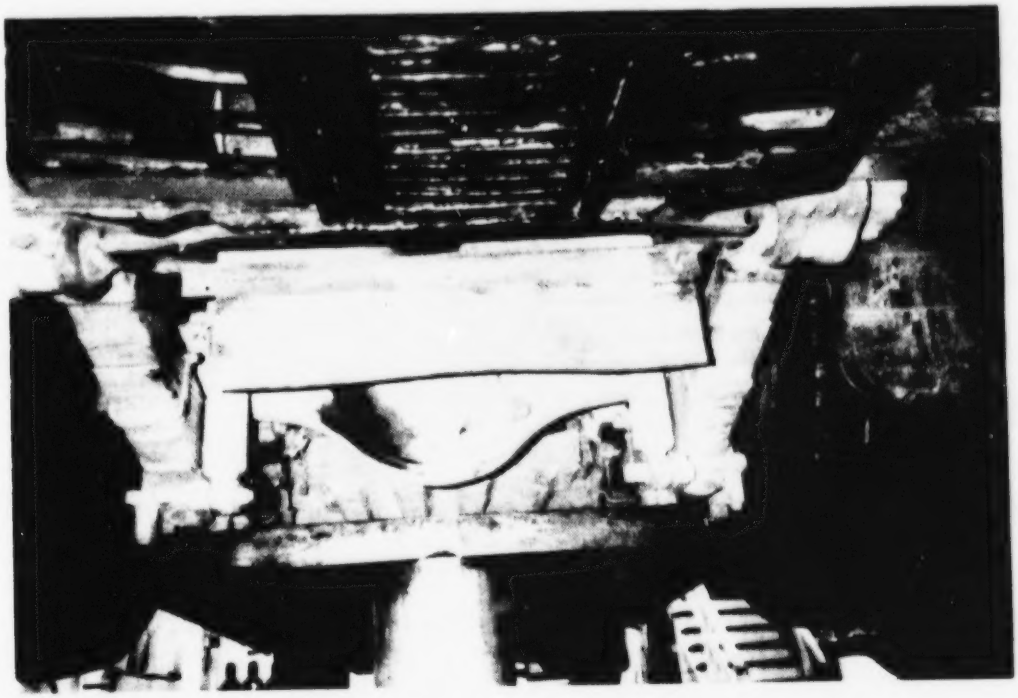
With rising labour costs there is increasing attention to this problem. Modern buses employ more corrosion-resistant materials, including better steels, special grades of aluminum, fibre-reinforced plastics, and stainless steel. Underbody coatings and Ziebart-type rust-proofing might also be employed.

The Canuck P-41 in the photographs was purchased in 1982 by Rent-a-Bus for $18000 after more than 20 years of service with various owners, including Capital Coachlines (Ottawa), Grey Goose (Winnipeg), Deep Cove Stage Lines (North Vancouver), Pacific Stage Lines (Vancouver) and Vancouver Island Coach Lines/Pacific Coach Lines (Victoria). Although showing wear-and-tear it had obviously been well maintained, and its new owner continues to maintain it well.

4.2 Suspensions

The semi-elliptic steel spring suspension used on the Canuck is of a design which evidently proved very successful (See figure 3).

The springs are approximately 60 in. in length and 4 in. wide. Rubber bushings are used at the spring eyes, and the spring pins are of the threaded type working in bronze bushings.



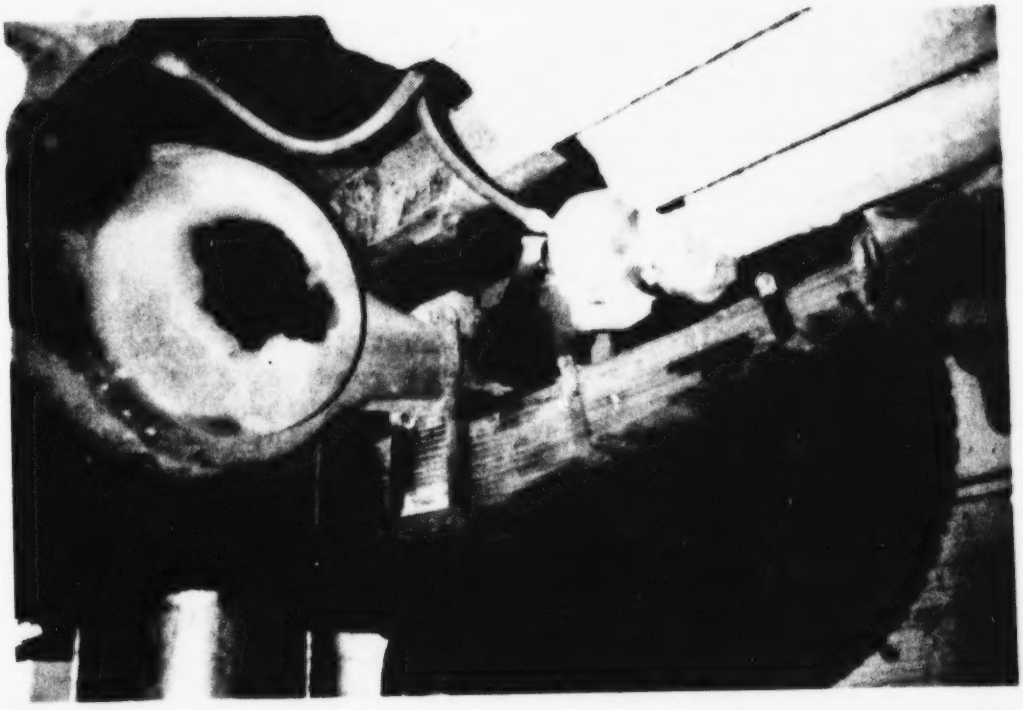


Figure 3 Canuck P-41 Rear Suspension

The length facilitates a high deflection capability. Large deflection results in a relatively low natural frequency, which is an essential characteristic for a comfortable ride. Adequate width serves to keep stresses in the leaves relatively low and to increase the life; it also contributes to lateral stability.

Vertical, large diameter, telescopic, double-acting shock absorbers are provided at each wheel. (figure 4).

The suspensions have the appearance of being well-designed, state-of-the-art, steel spring suspensions, and certainly they enjoyed a reputation of being trouble-free.

The air bag suspensions furnished in the subsequent Flyer models, 500 and 600, according to reports did not perform as well when used on rough gravel roads and in extreme cold.

The troubles encountered with air suspensions included:

(1) high frequency washboard is said to have caused levelling valves to admit air progressively and build up pressure to the maximum, giving a hard ride. (Levelling valves are not supposed to permit this. They should respond only to load changes, momentary changes due to vehicle dynamics being damped out.)
(2) extreme cold caused cracking of air bag walls, resulting in leaks.
(3) sand and gravel became entrapped and embedded between the bag convolutions, or, in the rolling lobe type, between the centre pylon or pedestal and the rubber bag.

It is not known whether these problems were corrected successfully.

4.3. Engine Air Intake

The engine air intake of the Canuck is located on the roof at the rear of the vehicle. For dusty road conditions this location has been proven to be ideal, since the air taken from that area is much cleaner than that at the sides of the vehicle, thus avoiding as much as possible, excessive filter contamination with the possiblity of bypassing dust-laden air directly into the engine. Careful attention must be paid to the design of the air induction system. The filtration system can become very elaborate, take up much space, be excessively expensive, or require very frequent cleaning or changing of elements.

An oil-bath type air cleaner was used and would still be used to-day with a dry type fitted for certain situations, such as sandy desert.

Figure 4 Canuck P-41 Shock Absorbers

4.4. Engine/Transmission

There are double rear doors and left and right side doors (figure 5) giving excellent access to the engine and its components such as the fuel pump, injectors, fuel filters, alternator and regulator, air compressor, alcohol evaporator, air system governor, batteries, and exhaust system.

The radiator and fan are located at the rear above the access door, the fan being driven by a long belt drive from a crankshaft pulley. This location contributes to good access to the engine.

The longitudinal placing of the engine permits the simplest of drive systems (figure 6) since the transmission is direct-mounted to the engine, and the drive-line to the rear axle is very short. This gives the most economical arrangement, and the most trouble-free.

The transmission is a six-speed synchro-mesh manual type. This is much less expensive than an automatic transmission, and is shorter in length and lighter in weight as well.

Although, to-day, automatics have reached a high degree of perfection, they are still heavier, longer, and more expensive than the equivalent manual gear-box.

The engine selected should also be as light, and short in length as possible consistant with the power requirements. A diesel engine, the Detroit Diesel 6V71 was fitted.

The longitudinal arrangement of engine/transmission is simpler and less expensive than V-drives, which are extensively used in transit buses with automatic transmissions. Should the overall length, however, of the engine/transmission/drive line be excessive, it may cause too much rear overhang and poor weight distribution. The rear overhang is limited by law in Canada to 3 metres maximum. The optimum weight distribution, in a two-axle rear-engined vehicle such as the Canuck is one-third on the front single tires, and two-thirds on the rear dual tires. A rear-end heavy condition can cause poor vehicle dynamics, such as excessive pitching at the front, and oversteer. The solution is generally the use of a "tag" axle behind the drive axle.

The essence of a good design, therefore, is to combine all features successfully, to give the right mix of space utilization, weight distribution, ride, simplicity, lowest cost, accessibility and structural strength.

The Canuck P-41 seems to be about the ideal size for the optimization of these features.

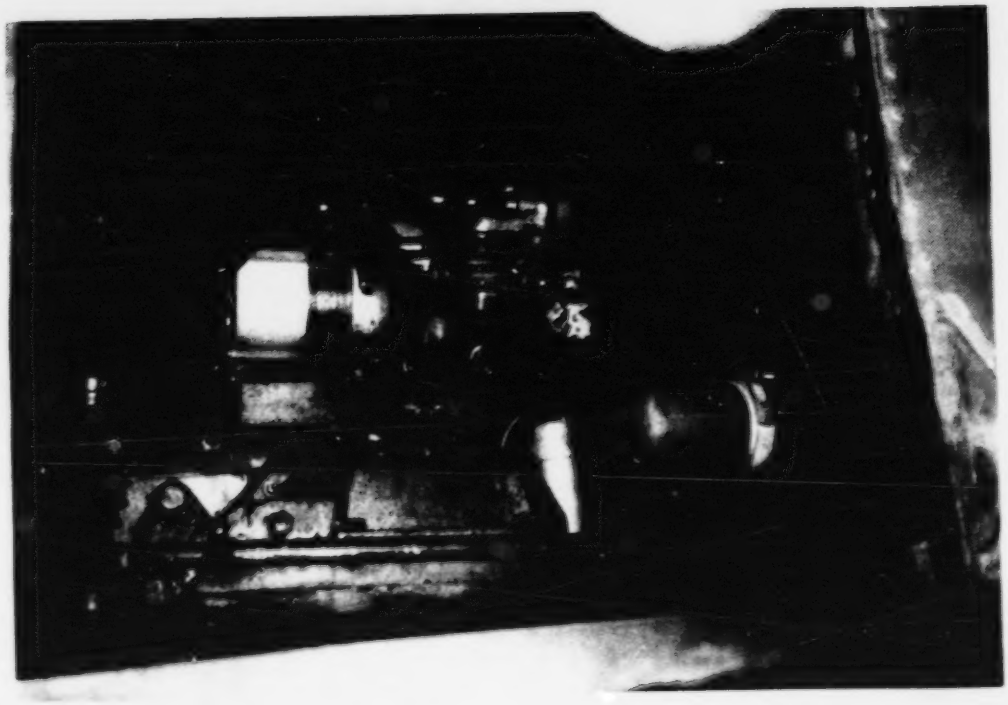


Figure 5 Engine Access Doors, Canuck P-41

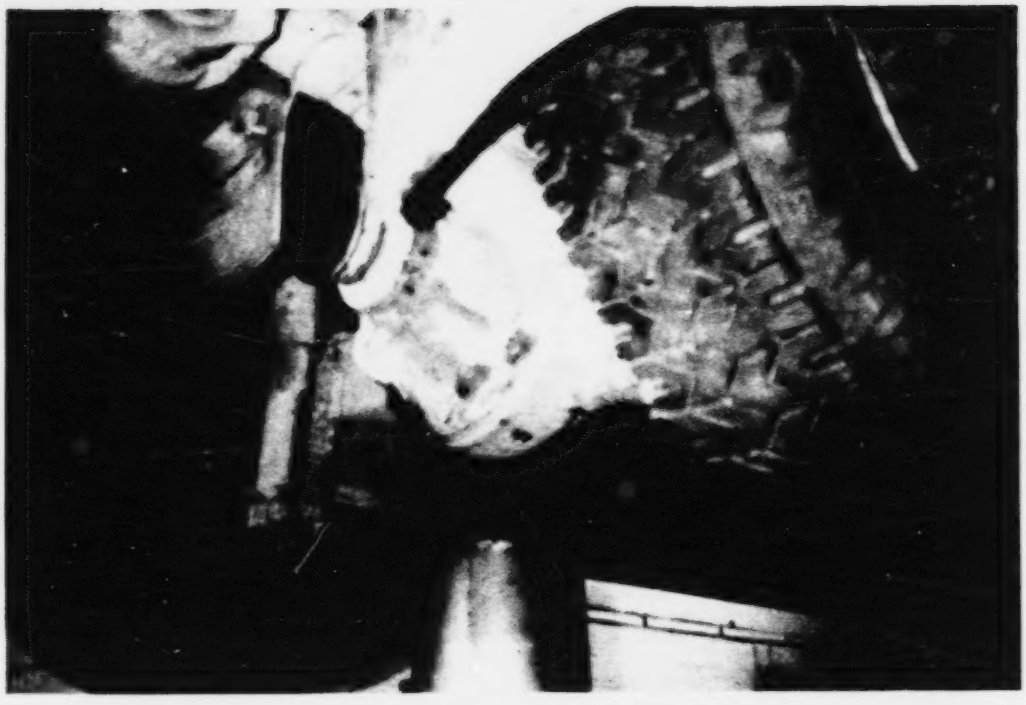


Figure 6 - Canuck P-41 Drive System

4.5 Spare Tire

The location of the spare tire at the front under the floor is well chosen, and the access is ingenious, being achieved by hinging the centre section of the front bumper upwards. (figure 7). It is ideal from the standpoint of weight distribution, and that of space utilization. The area is covered completely by a protective underpan.

4.6 Baggage Compartments

These occupy most of the underfloor space between the wheels. (figure 8) They are covered below by a corrugated steel protective pan, with a flat upper sheet for the floor. Access is by three top-hinged doors on each side. The doors are of rugged construction with two point flush, hand-operated locks. A small compartment is provided for tools, chains, jack, etc. behind the right front wheel.

4.7 Windows

Although the windows in successive Canucks kept getting deeper, their relative smallness was regarded as a definite advantage, as they made less intrusion into the structure, thus contributing to its potential integrity, and were easier to secure firmly. Also, since they were not double glazed, there was less heat loss from them.

4.8 Windshields

The small size of the windshields (figure 1) represents lower first cost and lower replacement cost, a major consideration since flying stones are a well known hazard to all vehicles in the north.

They appear also to be interchangeable left to right, although this is not certain.

4.9 Wheels and Tires

Tubeless, radial, size 12.5R22.5	
Load rating, singles, (front)	2741 kg.
duals, (rear).	2405 kg.
Gross vehicle weight, based on tire rating.	15102 kg.

Wheels are Budd pressed steel type with offset to give minimum spacing for chains.

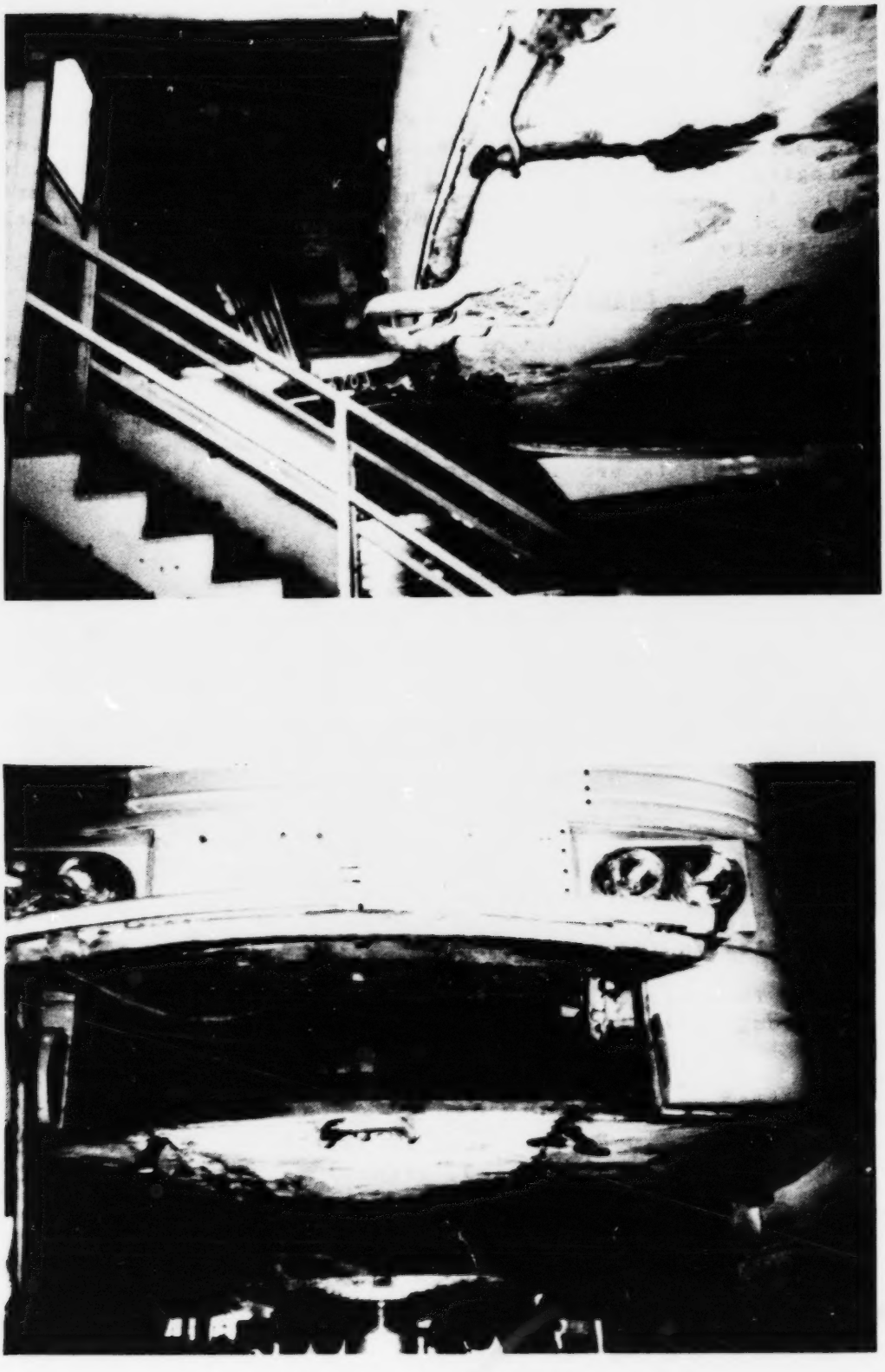
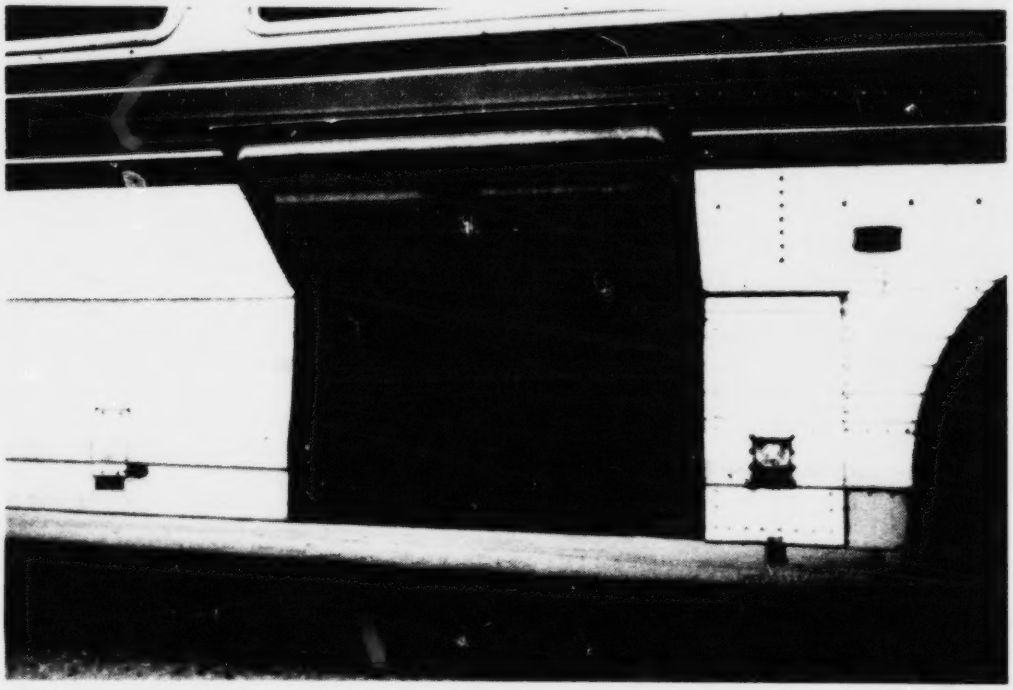


Figure 7 Spare Tire, Canuck P-41



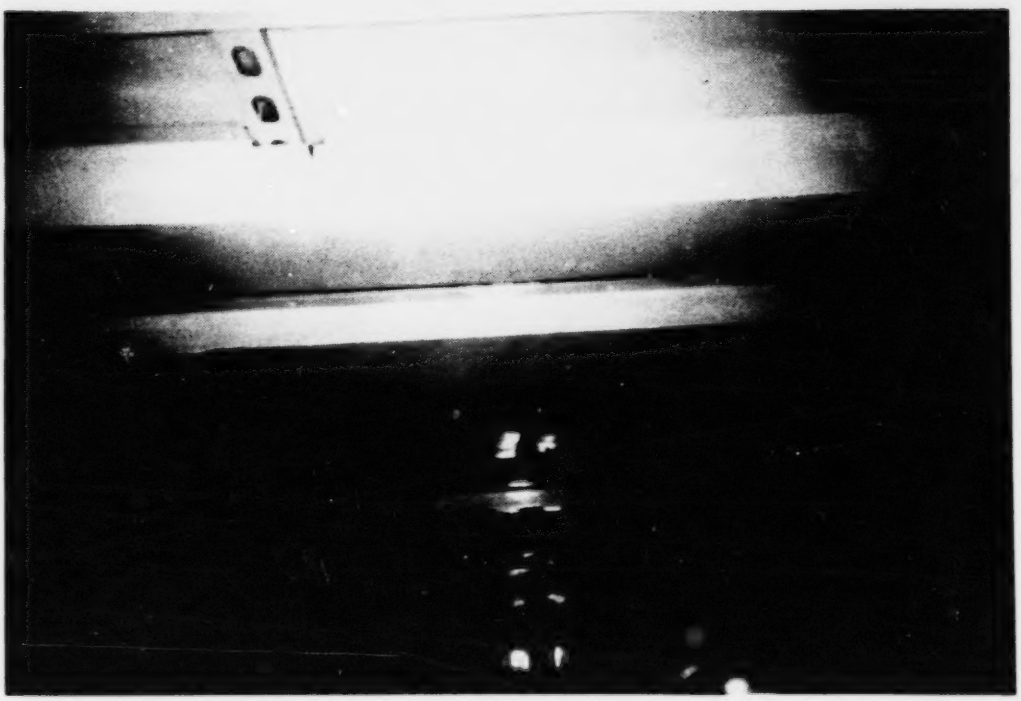


Figure 8 Baggage Compartment, Canuck P-41

4.10 Underfloor Protection

The entire front is sheathed underneath with a steel protective pan (figure 9a). The baggage compartments are protected by a steel skin, formed into corrugated sections (figure 9b) and the rear overhang under the engine is protected by louvered panels. (figures 9c).

4.11 Braking System

The Canucks were fitted with drum-type, air-operated service brakes on all four wheels. Spring-actuated "piggyback" brakes were also mounted (retroactively) to the rear axle air chambers. These function automatically in the event of loss of air pressure. (They are standard equipment on air-brake vehicles.)

As well, on units working in very hilly terrain, such as the Alaska Highway north of Dawson Creek, Jacobs Exhaust Brakes were fitted. These convert the engine into a compressor, driven by the wheels, to provide dynamic retarding when applied.

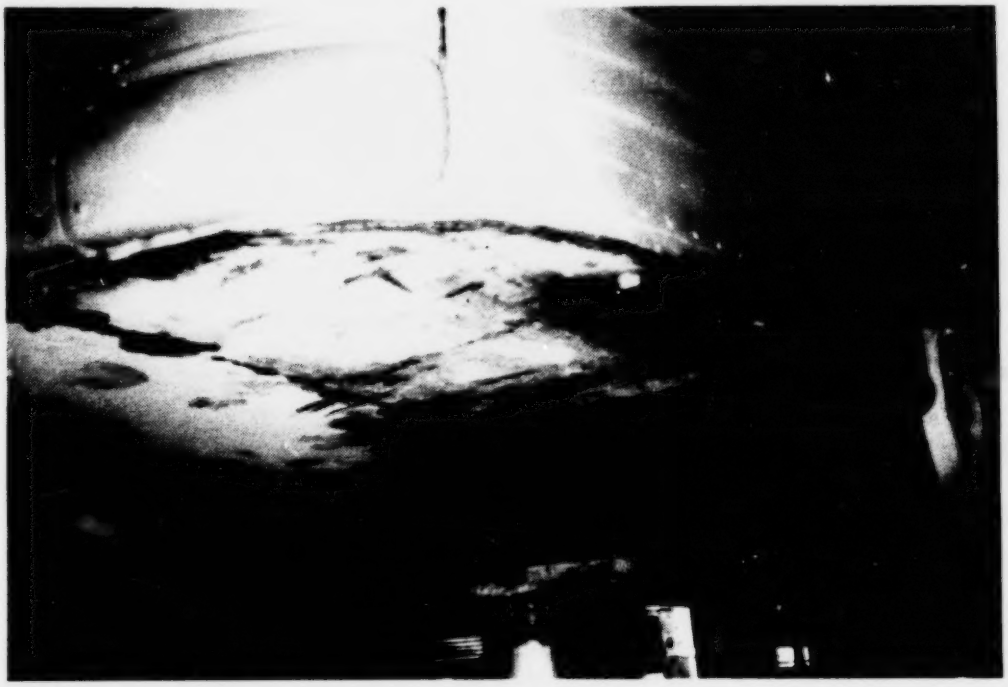


Figure 9a Front Underfloor Protection, Canuck P-41

Figure 9b Centre Unerfloor Protection, Canuck P-41

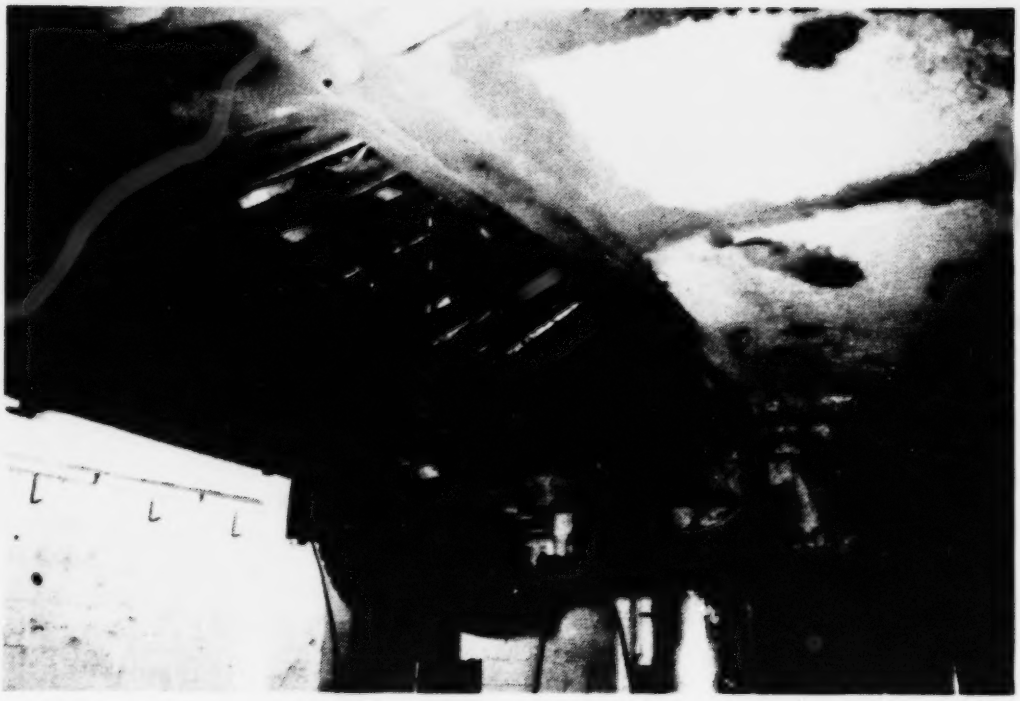


Figure 9c Rear Underfloor Protection, Canuck P-41

5. CHANGES RECOMMENDED IN THE CANUCK P-41 COACH FOR PRODUCTION TO-DAY

5.1 Frame

The materials for the frame should be selected carefully with a view to maximum corrosion resistance. High tensile low alloy steels, and especially COR-TEN form an impervious oxide coating which stabilizes and inhibits further corrosion. Mild steel forms a spongy oxide which permits corrosion to proceed through the metal.

Careful attention should be paid to dissimilar metals in contact. If these must be utilized, suitable compounds should be used between feying surfaces. If possible similar metals should be selected.

Aluminum used for skins and rivets should be chosen carefully to minimize galvanic action and corrosion from road salt and calcium chloride. Stainless steel may be used for some members.

The design of such a vehicle is of the "cut-and-try" type, meaning there is little or no laboratory testing, to minimize development cost.

Nevertheless, the existing Canuck structure should be examined by a competent vehicle designer, who should approach it from the standpoint that the existing design, by all reports, was remarkably successful. Changes should therefore be avoided, or approached with caution.

Stress analysis should be used to obtain useful data concerning the load factors used on these vehicles for rugged conditions.

The design should be standardized and interchangeability of components maintained. The use of fibre reinforced polyester, especially for curved panels and stepwells, and structural honeycomb should be considered.

5.2 Suspensions

The suspensions having been quite acceptable from the ride standpoint, and dependable from the service standpoint, there

would appear to be no reason to change them. As in the case of the structure, well meaning attempts to improve, simplify or cost-reduce the design should be approached with extreme caution. The springs had the appearance of being well engineered, but they must also be properly built, with close attention to metallurgy, heat treatment, assembly stress, and free height. They should be stress analysed and the "bump openings" properly controlled with bump pads.

The natural frequency should be checked by calculation, and a simple measurement made by bouncing a vehicle.

The shock absorbers should be checked to see if any improvement in this area is possible.

By nature of its simplicity, this type of suspension is probably the best for extreme environments or remote areas, such as the Canadian North or Third World countries where there may be logistical problems and lack of trained personnel.

5.3 Engine Air Induction System

The air intake on the roof is a feature which should be retained without question. It is probable that a modern dry type air cleaner would be preferred today for dusty conditions. This should be given detailed study if proceeding with a re-design.

5.4 Engine/Transmission

There would appear to be no reason to change the basic diesel engine and manual transmission, except of course that their modern equivalents would be selected of necessity. As well, they should be better than their predecessors.

As stated earlier, automatic transmissions are available, but they are more expensive, heavier, longer and more complicated than manual types. Therefore, while there would undoubtedly be pressure to "modernize", their use would tend to compromise the design, and should be avoided.

5.5 Axles

Similarly the front and rear axles would be updated, However, the same basic models with improvements would likely be used. The source would be Rockwell or Eaton.

5.6 Steering Gear

Here again there are newer designs available incorporating integral power steering from TRW, and others.

5.7 Wheels

Budd pressed steel wheels are used on the Canuck. There would be no reason to change them. They are commonly used on coaches. The same sizes are still in use.

5.8 Spare Tire

The front end location, with a pull-out tray that drops down for loading/unloading the tire seems an excellent feature.

5.9 Baggage Compartments

These would remain the same, except for improving the corrosion resistance by a change of materials.

5.10 Windows

The size of the windows need not be altered, but they could be double glazed. The coach could be built with slide-opening windows, as on existing Canucks, or they could be changed to double-glazed sealed windows. In any case the kick-out feature used to-day should be incorporated, in some windows at least.

Of course using sealed windows implies the use of air conditioning.

5.11 Windshields

There are not many sources for Duplate safety glass windshields. The tooling may still exist. In any event the shape could be copied from an existing Canuck. No change would be necessary.

5.12 Underfloor Protection

There would be no reason to change this excellent feature, except that the materials should be updated to use modern corrosion resistant materials.

5.13 Braking Systems

There have been improvements in service brakes, and optional W type, P type, and Stopmaster brakes are offered. This would require careful study to select the best performer for low temperatures, gravel road conditions, and fade resistance for hilly operations. These are all drum brakes. Disc brakes are coming more and more into use as well, and could be included in the study of candidates.

Piggy-back mechanical emergency/parking brakes would be used. Most Canucks have them now, having been retrofitted. Jacobs exhaust brakes could be offered as an option. Many Canucks now have them.

5.14 Heating/Defrosting System

The Canuck was reported to be the warmest bus ever to have been operated in the North. The system employed underseat heaters, using the engine coolant as a heat source. Storm windows were fitted in the fall and removed every spring. On a new design, current practice of using double glazed windows might be preferable for Canadian operations. Space considerations might make it difficult to design a central heating system into the Canuck. Optional fuel burning heaters might supplement the engine as a heat source if necessary. Fresh air heating, rather than recirculating is desirable, as are powerful windshield defrosters.

5.15 Air Conditioning

It would be desirable to offer an optional air conditioning package with sealed double-glazed windows. The northern areas such as the Yukon, Alaska and Yellowknife area in NWT are full of air conditioned tour buses. However, forced air ventilation would normally suffice.

5.16 Electrical System

There have been many improvements in this area since the Canuck was build. Suffice to say that a modern well designed system with superior access for maintenance will help the good reputation of the new Canuck.

Instruments, switches, and circuit breakers of excellent quality are available, on an off-the-shelf basis. It would not be necessary to design special components. (Ref. figure 10).

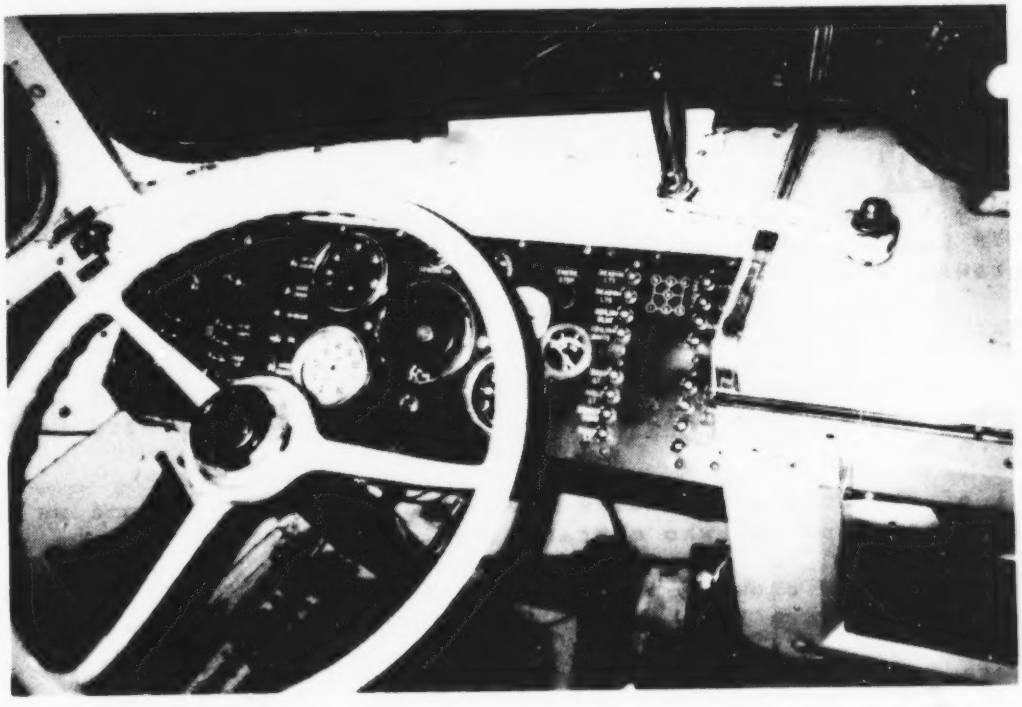


Figure 10 Instrument Panel, Canuck P-41

6. THE POSITION OF FLYER WITH RESPECT TO A REVITALIZED "CANUCK"

Mr. Paul Doose of Flyer Industries Limited is said to be their expert on the "Canuck". On being contacted, Mr. Doose advised that all drawings and tooling for the Canuck had been disposed of when the company went into the transit bus business; also, that they were no longer interested in building intercity coaches.

Mr. Doose did say that he would try to find photographs and specifications and make them available. He was apparently unable to locate anything, since the letter quoted below was received subsequently.

January 5, 1982

Mr. Lloyd B. Walker, P. Eng.
Hovey & Associates (1979) Ltd.
2378 Holly Lane
Ottawa, Cntario. K1V 7P1

Dear Mr. Walker:

In regards to your conversation with myself and our Mr. K. Doose, we are unable to obtain any information on our standard Canuck which may help you.

All of the standard Canucks are privately owned now and we are unable to find out who operates these buses now.

Thank you for showing interest in Flyer Industries Ltd. if we can be of any future help please do not hesitate to contact us.

Yours very truly
FLYER INDUSTRIES LIMITED

Aline Morley
Administrative Assistant Marketing

AM/am

Original signed by Aline Morley
Administrative Assistant Marketing

7. ESTIMATION OF THE COST OF PRODUCTION

Detailed cost estimating was not possible within the limited scope of this study since no engineering data was available.

Costs have tripled since the last P-41 Canucks were delivered, and many changes would have to be introduced.

A target selling price of $150,000 is offered for discussion purposes, subject to more detailed study in a second phase of this study.

It is based upon the following:

Engineering	$250000
Tooling	250000
Testing	150000
Prototype	350000
TOTAL	$1000000

Amortization - over 200 units @ $5000 each.

Cost Breakdown:

Material Cost	$ 66000
Labour	65000
Subtotal	$131000
Profit 10%	13100
Subtotal	$144100
Development	5000
Selling Price	$149100

It is believed that this selling price would be competitive in to-day's market.

8. ASSESSMENT OF THE MERITS OF DEVELOPING A NEW CANUCK

There appears to be a market opening for this product. There is no known domestic equivalent nor is there a known similar product being built elsewhere in the world. This opinion was expressed by qualified persons, and is subject to more exhaustive study than was possible at this time, making a market survey an essential step.

The principal features that made the Canuck successful appear to be unique. Present day buses are offered, at one end of the range, on truck chassis, similar to school buses, or at the other, highway types with semi-monococque construction and air or rubber suspensions. For the more rugged operations it is believed that there is much improvisation, such as the use of smaller four wheel drive vehicles.

There is no technical difficulty in the redevelopment of the Canuck, even though drawings and tooling, apparently, no longer exist. It would, of course, be beneficial if they should appear.

However, in view of the necessary redesign, it would be sufficient to have an old P-41 for reference.

The present coach builders, such as GMC, MCI, and PREVOST, not to mention EAGLE and NEOPLAN in the United States, have established product lines which do not resemble the Canuck, except superficially. Although, of course, any of them could undertake the development of a new Canuck, it would seem probable that present involvement would render this relatively less attractive than to a company which may be interested in expanding its product line, and which already possesses the capability to handle the project, by virtue of related products, the presence of a suitable sub-contracting infrastructure and a marketing organization to handle domestic and foreign sales.

9. CONCLUSIONS

(i) The Canuck model P-41 had characteristics of ruggedness and strength which made it uniquely suitable for harsh operating conditions.

(ii) Should the bus enter production again, designers should examine the potential offered by new materials and componentry, to correct the minor deficiencies of the original Canuck and to take advantage of the latest technology.

(iii)There appears to be an opening to market a coach with the characteristics of the Canuck, but updated, in the developing Canadian hinterland, and in Third World countries.

(iv) Engineering drawings and tooling are not available. This may not be of much importance in view of the need to update the design, and in view of the availability of a suitable operational example of a P-41.

(v) The P-41 is the basic model which should be selected for revitalizing the Canuck.

(vi) The basic frame and suspensions of the P-41 were the principal features which gave the Canuck its good reputation. Others were its simplicity, serviceability, clean underbody, small windows and windshield, and high air intake.

(vii)Preliminary estimates of the cost of redeveloping the Canuck P-41 are favourable, in view of to-day's market prices.

10. RECOMMENDATIONS

(i) A second phase to the present study should be undertaken (Phase II).

(ii) One element of Phase II should be a market survey to establish:

a. The Canadian market.
b. The Third World market.
c. The competition.
d. The market price.

(iii)Another element of Phase II should be an engineering study. This should include:

a. A field trip to obtain first hand experience with the operation of the P-41 in service, in northern conditions.
b. Establishment of a detailed engineering specification.
c. A detailed manufacturing cost estimate.
d. Estimation of the development cost in detail.

(iv) The use of an existing P-41 Canuck for engineering study and manufacturing cost estimating is an essential element of Phase II.

(v) In the event that Phase II continues to demonstrate the need for revitalizing the Canuck, a final Phase III should be undertaken, with the following objectives.

a. Detailed engineering.
b. Prototyping.
c. Testing
d. Identifying of manufacturer.
e. Identifying sources of funds.

APPENDIX A

Coachways System Operations Summary

APPENDIX A

COACHWAYS SYSTEM OPERATIONS

The attached schedule, dated June 1968 was analysed for mileage and number of buses required to operate it.

It will be noted that more buses were in service in summer than in winter. Advantage was taken of this to carry out major overhaul during the winter.

It will also be noted that 50,000 miles per year is typical of this type of operation.

SUMMARY

Table	Mileage/Year	Minimum No. of Buses Summer	Winter	Av. Mileage/Bus (Miles)
6451	402160	8	4	50270
6452	191256	3	3	63752
6453	85484),	4	-	28004
6454	26532)			
6454A	140344	4	-	35086
6464	70000	2	2	35000
6465	51830	1	1	51830
6468	83220	2	2	41610
6478	214620	4	4	53655
6479	158478	3	3	52826
		31	19	

G. Cameron—Pres. and Gen. Mgr.
F. A. Moore, Traffic Manager R. Jodoin, Office Manager and Reclaims
H. J. Foote, Operation Mgr. C. Spratt, Asst. Gen. Mgr. & Marketing Mgr.

EDMONTON—DAWSON CREEK—WHITEHORSE

READ DOWN — 4-28-68 — READ UP

Run Numbers: 6451 | 6452

601 Dly	601 Dly	201 Dly	Mls		522 Dly	202 Dly	602 Dly	O.W fare
9 00	11 45	9 00	0	Lv Edmonton, Alta.—MST Ar	6 15	4 45	7 55	.00
10 00	12 50	f	48	Gunn Cor.	f	f	f	1.95
f	f	f	85	Mayerthorpe Cor.	f	f	f	3.50
11 55	2 10	11 15	111	Ar Whitecourt Lv	3 45	2 00	5 25	4.50
12 45	3 00	11 45	111	Lv Whitecourt Ar	3 30	2 00	5 25	4.50
f	f	f	161	zFox Creek	f	f	f	6.60
f	f	f		zLittle Smokey Cross	f	f	f	7.75
1 55	4 40	1 45	216	Ar Valleyview Lv	1 15	12 15	3 10	8.75
2 05	4 55	1 55	216	Lv Valleyview Ar	1 05	11 55	3 05	8.75
f	f	f	225	Calais Cor. ¼N	f	f	f	9.10
2 28	f	f	232	Sturgeon Heights	f	f	f	9.40
2 43	f	f	243	^Crooked Creek	f	f	f	9.70
3 03	f	f	249	^Debolt Cor. ¼N	f	f	f	10.00
3 23	f	f	264	^Bezanson	f	f	f	10.60
3 35	6 15	3 15	285	Ar Grande Prairie Lv	11 40	10 35	f	11.20

Run Numbers: 6451 | 6452

603 MWF	603 MWF	203 MWF	Mls		504 Dly	204 Dly	604 Dly
3 50	6 45	3 30	0	Lv Grande Prairie Ar	11 25	10 15	1 50
f	f	f	14	Wembley Cor.—18	f	f	f
4 20	7 20	4 00	26	^Beaverlodge	10 45	9 40	12 55
4 35	7 35	4 15	36	^Hythe	10 30	9 25	12 40
f	f	f	52	Demmitt, Alta.	10 14	f	12 24
5 10	f	f	63	Tom's Lake Cor., B.C.	f	f	11 58
5 20	8 05	f	75	^Pouce Coupe	9 50	8 40	11 40
5 40	8 25	5 00	81	Ar Dawson Creek, B.C. Lv	9 30	8 30	11 30
	11 55	11 55	0	Lv Dawson Creek (6455) Ar	6 35	6 30	
	6 25	6 45	260	Ar Prince George Lv	10 00	11 45	
6 00	9 00	5 45	81	Lv Dawson Creek Ar	8 00	8 00	11 15
6 45	f	6 30	117	^Taylor	f	f	10 25
7 00	10 00	6 45	128	Ar Ft. St. John Lv	8 00	7 30	10 15

Run Numbers: 6452

521				522
11 30			0	Lv Dawson Creek Ar
f			47	Ar Ft. St. John Lv
f			47	Lv Ft. St. John Ar
f			101	Ar Wonowon Lv
f			101	Lv Wonowon Ar
f			146	Beatton River
f			200	Ar Trutch Lv
f			200	Lv Trutch Ar
f			256	Ar Ft. Nelson Lv
f			256	Lv Ft. Nelson Ar
f			387	Ar Summit Lv
f			387	Lv Summit Ar
f			418	Toad River Lodge
f			460	Ar Muncho Lake Lv
12 01			460	Lv Muncho Lake Ar
f			494	Liard River
1 45			538	Fireside (MST)
2 35			614	^Lower Post, B.C.—YET
2 55			628	Ar Watson Lake, Y.T. Lv
3 05			628	Lv Watson Lake, Y.T. Ar
4 15			689	Transport
4 45			706	Rancheria
5 25			730	Swift River
6			800	Ar Teslin Lv
7			800	Lv Teslin Ar
8			833	Johnsons Crossing
9			866	Crystal Palace
9 45			913	Ar Whitehorse, Y.T.—YET Lv

Operates daily June 27 to Sept. 1 — Tues.-Thurs.-Sat.

Operates daily June 27 to Sept. 1 — Wed.-Fri.-Sun.

Operates daily June 27 to Sept. 1 — Thurs.-Sat.

WHITEHORSE—DAWSON CITY—ELSA

READ DOWN — 3-2-68 — READ UP

Run Numbers: 6452

527 MWF	525 MWF	Mls		526 TTS	526 TTS
11 00		0	Lv Whitehorse, Y.T.—(YET) Ar	4 30	
f		10	Mayo Junction	f	
1 15		108	Ar Carmacks Lv	2	
1 45		108	Lv Carmacks Ar	2	
f		150	Midway Lodge	f	
f		175	Pelly River	f	
2 25		218	Ar Stewart River—(YET) Lv	11 45	
2 40		218	Lv Stewart River Ar	11 15	
f			Gravel Lake	f	
f		305	Flat Creek—(YWT)	f	
5 00		331	Ar Dawson City—(YWT)	8 00	
		0	Lv Stewart River—(YET) Ar		11 30
		34	^Mayo		9 45
		46	Duncan Creek		9 25
		62	Ars Elsa, Y.T.—(YET) Lv		9 00

Operates daily June 27 to Sept. 1 — Mon.-Wed.-Fri.

Explanation of Reference Marks Shown Beside Table 6451

ALASKAN COACHWAYS, LTD.

WHITEHORSE—FAIRBANKS—ANCHORAGE

READ DOWN — READ UP

Run Numbers: 6453 | 6454

523 Dly		523 Dly		524 Dly		524	O.W. fare
●1130		11 30	Lv Whitehorse, Y.T.—(YET) Ar	4 55			.00
f		f	Mayo Jct.	f			.65
●1250		12 50	Champagne				3.40
f		1 15	Kruk-R-Kruk				4.15
f		1 45	Canyon Creek				4.70
●2 00		2 00	Ar Haines Jct.—(YET) Lv	1 45			5.90
●2 15		2 15	Lv Haines Jct., Y.T.—(6454a) Ar	1 30			
●6 15		6 15	Ar Haines, Alaska Lv	9 30			
●2 15		2 15	Lv Haines Jct. Ar	12 58			
●2 45		2 45	Destruction Bay	10 13			4.00
●3 00		3 00	Ar Burwash Landing Lv	10 00			4.65
			Overnight Stop—Southbound				
●3 00		3 00	Lv Burwash Landing Ar				
●3 45		3 45	Travellers Service				4.65
●4 00		4 00	Bradleys				6.05
●4 30		4 30	White River Lodge				6.75
●5 00		5 00	Ar Beaver Creek—(YWT) Lv				9.10
●5 00		5 00	Lv Beaver Creek, Y.T.—(AT) Ar				11.40
●5 30		5 30	Scotty Creek, Alta.				11.65
●6 00		6 00	Northway Motel				1.45
●6 30		6 30	Riverside Lodge				3.70
●7 00		7 00	40 Mile House				4.75
●7 00		7 00	Ar Tok Jct. Lv				6.00
			Overnight Stop—Northbound				6.80
●7 00		$ 7 00	Lv Tok Jct.—(6454) Ar	$ 2 30			
●7 00		$ 4 00	Ar Anchorage Lv	$ 6 00			
●7 00		7 00	Lv Tok Jct. Ar	2 30			
●7 10		7 10	Tanacross Jct.	2 20			6.80
●9 40		9 40	Ar Delta Jct. Lv	12 00			9.20
●1000		10 00	Lv Delta Jct. Ar	11 30			13.25
●1120		11 20	Aurora Lodge	10 10			13.25
●1230		12 30	Ar Fairbanks, Alas.—(AT) Lv	9 00			16.80
							19.15

Run Numbers: 6454

555		555		555		555	U.S. O.W. fare
			Lv Fairbanks, Alas. Ar				.00
			Eielson Jct.				2.35
			Aurora Lodge				4.20
			Richardson				5.30
			Delta Jct.				5.90
			Delta Jct.				6.20
			Ft. Greely Jct.				7.95
			Rapids				10.75
			Paxson				
			Meiers				12.95
			Bourdough				14.15
			Lappis Service				
●7 00	●7 00		Lv Tok Jct. Ar	$ 2 30		$ 2 30	
●1045	●1045		Ar Glenallen Jct. Lv	$11 15		$11 15	15.00
●1110	●1110		Lv Glenallen Jct. Ar	$10 50		●1050	15.00
●	●		Atlasta House	8 f		● f	16.40
●1202	●1202		Mendaltna House	8 9 58		● 9 58	17.15
●1228	●1228		Eureka Lodge	8 9 32		● 9 32	18.65
●	●		^Meekins	8 8 52		● 8 52	19.75
●	●		^Meekins	8 8 40		● 8 40	19.75
●	●		King Mtn. Lodge	8 f		● f	19.75
●	●		Alpine Inn	8 7 20		● 7 20	21.75
●	●		^Palmer	8 7 10		● 7 10	22.70
●	●		Ar Anchorage, Alas. Lv	8 6 00		● 6 00	23.45
							26.35

Canadian Dollars. —U.S. Dollars.

FAIRBANKS—HAINES

READ DOWN — READ UP

Run Numbers: 6454A

Dly		Dly			Dly		
●9 00		9 00	Lv Fairbanks, Alas.—(6454) Ar		12	●1200	
●1201		12 01	zDelta Jct.—(6454)		10	●1000	
●2 20		2 20	Ar Tok Junction Lv		7 00	●7 00	
			Overnight Stop—Northbound				
			Lv Tok Junction Ar				
			Ar Beaver Creek, Y.T.—(AT) Lv				
			Lv Beaver Creek—(YWT) Ar				
			Ar Burwash Landing Lv				
			Overnight Stop—Southbound				
●1000		10 00	Lv Burwash Landing Ar				
●1013		10 13	Destruction Bay				
●1258		12 58	Ar Haines Jct., Y.T. Lv				
			Lv Haines Jct.—(YET) Ar				
			Dezadeash				
			Klukshu				
			B.C.-Yukon Border				
			Mile 94 Pump Stn.				
●	●	5 15	Lv Canadian Customs Ar		10 50	●1050	
● f	● f	f	Porcupine Cor.		f	● f	
● f	● f	f	Klukwan		f	● f	
● 6 15	● 6 15	6 15	Ar Haines, Alas.—(PST) Lv		9 30	●9 30	

FAIRBANKS—NENANA—CLEAR

READ DOWN — READ UP

Run Numbers: 6454C — 4-28-68

557 W-F	558 M-W		555 M-W	555 W-F
4 30	4 15	Lv Fairbanks, Alas.—(LT) Ar	9 45	
5 50	5 35	Nenana	8 15	
6 25	6 10	Ar Clear, Alas. Lv	7 30	

(INTERNATIONAL BAGGAGE REGULATIONS: Refer to Page 4 for Important Customs Regulations.)

Indicates Canuck Routes

Coachways

EDMONTON—DAWSON CREEK—PRINCE GEORGE—PRINCE RUPERT

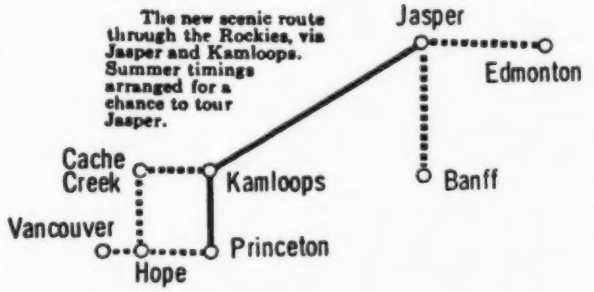
READ DOWN				4-28-68	READ UP			
891	891	291	Mls	Run Numbers 6455 (LT)	892		292	892	O.W. fare
9 00	11 45	9 00	0	Lv Edmonton, Alta. (6451) Ar	6 15		4 45	7 55	.00
11 28	2 10	11 15	111	Ar Whitecourt Lv	3 45		2 30	5 35	4.50
11 40	2 25	11 45	111	Lv Whitecourt Ar	3 30		2 10	5 15	
1 55	4 40	1 45	216	Ar Valleyview Lv	1 15		12 10	3 10	8.75
2 05	4 55	1 55	216	Lv Valleyview Ar	1 05		11 59	3 05	
3 35	6 15	3 15	285	Ar Grand Prairie Lv	11 40		10 35	1 40	11.20
893	893	293		Run Numbers	894		294	894	
3 30	6 45	3 30	0	Lv Grande Prairie, Alta. Ar	11 25		10 15	1 20	.00
4 20	7 30	4 00	26	Beaverlodge	10 45		9 40	12 50	1.15
4 35	7 39	4 15	36	Hythe	10 30		9 25	12 35	1.55
14 45	f	f	52	Dunvegan, Alta.	10 10		f	12 15	2.20
13 10	18 09	f	63	Tom's Lake Cor., B.C.	19 55		f	f1158	2.75
5 38	8 35	5 06	75	Peace Canyon	9 49		8 40	11 40	3.20
5 40	8 35	5 15	81	Ar Dawson Creek, B.C. Lv	9 30		8 30	11 30	3.56
6 00	9 00	5 45	0	Lv Dawson Creek, B.C. (6451) Ar	9 00		8 30	11 15	.00
7 00	10 00	6 45	47	Ar Ft. St. John, B.C. Lv	8 00		7 30	10 15	1.90
	295	297		Run Numbers	516		296		
.....	11 55	11 55	0	Lv Dawson Creek, B.C. Ar	4 25	.....	6 30	.....	.00
.....	12 05	12 15	10	Arras	4 15	.....	6 15	.....	.50
.....	12 20	f	23	Progress	4 00	.....	5 58	.....	.90
.....	12 35	12 45	33	Groundbirch	3 45	.....	5 43	.....	1.20
.....	12 55	1 05	45	East Pine	3 25	.....	5 20	.....	1.75
.....	1 20	1 35	65	Ar Chetwynd Lv	3 00	.....	4 50	.....	2.55
.....	3 00		0	Lv Chetwynd (6460) Ar	.....	1 35	.....	.....	.00
.....	4 10		40	Ar Hudson Hope Lv	.....	12 30	.....	.....	2.00
.....	1 30		65	Lv Chetwynd Ar	3 00	.....	4 40	.....	2.55
.....	2 12		83	Commotion Creek	2 18	.....	4 18	.....	3.05
.....	2 29		93	Pine Valley	2 01	.....	4 03	.....	3.45
.....	3 04		115	West Pine (MST)	1 25	.....	3 26	.....	4.35
.....	3 33		135	Azouetta Lake (PDT)	1 17	.....	2 57	.....	5.20
.....	3 48		142	Kennedy	1 03	.....	2 42	.....	5.90
193 EMW				Run Numbers				194 EMW	
9 00				Lv McKenzie Ar				8 15	
9 30	3 35	4 10	180	Parsnip River	12 45		2 20	7 45	6.35
9 30	3 45	4 20	175	Ar McLeod Lake Lv	12 35		2 10	7 35	6.75
9 30	4 00	4 40	175	Lv McLeod Lake Ar	11 50		1 50	7 20	6.75
9 45	4 20	4 55	187	Crooked River Cabins	11 30		1 32	7 05	7.20
10 20	4 55	5 42	210	Davie Lake	11 08		12 48	6 35	8.20
11 03	5 38	6 01	230	Summit Lake	10 41		12 29	6 11	9.00
11 19	5 55	6 20	243	Salmon River	10 23		12 10	5 55	9 60
11 45	6 20	6 45	260	Ar Prince George, B.C. Lv	10 00		11 45	5 30	10 20
ESM	311	309		Run Numbers	512	ESM	210		
9 30	10 45	9 30	0	Lv Prince George, B.C. Ar	7 30	10 30	10 45	.....	.00
f	f	f	22	Teloshik	f	f	f	.....	.95
f	11 20	10 17	34	Bednesti	6 50	f	8 55	.....	1.20
12 01	12 01	10 45	69	Ar Vanderhoof Lv	6 15	9 00	8 15	.....	2.40
12 15	12 15	10 50	69	Lv Vanderhoof Ar	6 10	9 00	8 10	.....	2.40
.....	▼	▼	86	Ft. St. James	▲	7 45	▲	.....	3.25
.....	12 45	11 20	95	Ft. Fraser	5 40	.....	8 45	.....	3.60
.....	1 05	11 37	98	Fraser Lake	5 20	.....	8 25	.....	3.85
.....	1 20	11 50	107	Endako	5 08	.....	8 10	.....	4.05
.....	f	f	135	Tintagel	f	.....	f	.....	5.05
.....	2 15	12 48	143	Ar Burns Lake Lv	4 15	.....	7 20	.....	5.45
.....	2 45	1 15	143	Lv Burns Lake Ar	4 00	.....	6 50	.....	5.45
.....	f	f	149	Decker Lake	f	.....	f	.....	5.60
.....	f	f	161	Rose Lake	f	.....	f	.....	5.85
.....	3 25	2 00	175	Tonley	3 15	.....	6 05	.....	6.60
.....	3 50	2 25	195	Houston	2 50	.....	5 40	.....	7.35
.....	f	f	216	Quick	f	.....	f	.....	8.10
.....	4 40	3 05	226	Telkwa	2 10	.....	5 05	.....	8.50
.....	5 05	3 30	237	Ar Smithers, B.C. Lv	1 55	.....	4 40	.....	8.70
	315	311		Run Numbers	516		212		
.....	5 20	3 45	237	Lv Smithers, B.C. Ar	1 45	.....	4 30	.....	8.70
.....	5 50	4 15	259	Moricetown	1 15	.....	4 00	.....	9.50
.....	6 20	4 50	281	New Hazelton	12 30	.....	3 30	.....	10.25
.....	6 25	4 55	284	South Hazelton	12 25	.....	3 25	.....	10.35
.....	6 40	5 15	298	Skeena Cross	12 04	.....	3 05	.....	10.85
.....	f	f	307	Kitwanga	f	.....	f	.....	11.20
.....	7 20	5 55	320	Ar Cedarvale Lv	11 30	.....	2 30	.....	11.75
.....	7 50	6 20	320	Lv Cedarvale Ar	11 15	.....	1 50	.....	11.75
.....	f	f	357	Usk	f	.....	f	.....	13 00
.....	9 15	7 55	372	Ar Terrace Lv	9 45	.....	12 30	.....	13 65
.....	9 30	8 05	372	Lv Terrace Ar	9 25	.....	12 25	.....	13 65
.....	f	f	382	Amsbury	f	.....	f	.....	14 00
.....	10 00	8 35	390	Shames	8 52	.....	11 52	.....	14 30
.....	f	f	397	Exstew	f	.....	f	.....	14 50
.....	f	f	409	Salvus	f	.....	f	.....	14 95
.....	10 45	9 20	421	Kwinitsa	8 10	.....	11 10	.....	15.40
.....	11 08	9 45	441	Tyee	7 45	.....	10 45	.....	16.10
.....	11 23	9 55	449	Rainbow Lodge	7 31	.....	10 31	.....	16.40
.....	f	10 15	456	Port Edward Cor.	f	.....	f	.....	16.56
.....	11 55	10 30	456	Ar Prince Rupert, B.C. Lv	7 00	.....	10 00	.....	16.95

EXPLANATION OF REFERENCE MARKS SHOWN BESIDE TABLE 6481.

Coachways

The Yellowhead Route 6456

The new scenic route through the Rockies, via Jasper and Kamloops. Summer timings arranged for a chance to tour Jasper.



EDMONTON—JASPER—KAMLOOPS—VANCOUVER

DOWN					UP			
	913	803	Run Numbers 6456 6-17-68		804	914		O.W. Fare
Mls	Dly	Dly			Dly	Dly		
0	5 30	8 00	Lv Edmonton, Alta. GLC Ar		10 25	12 55		
235	11 45	1 30	Ar Jasper, Alta. Lv		5 00	7 00		
0	12 01	9 00	Lv Jasper, Alta. (MST) CCw Ar		3 25	5 45		.00
18	12 24	9 24	Yellowhead, Alta. (MST)		3 00	5 20		.65
44	f	f	Red Pass, B.C. (PDT)		f	f		1.55
54	f	10 15	Mt. Robson		2 10	4 20		1.90
68	f	10 35	Tete Jaune		1 55	4 00		2.40
76	1 45	10 45	Ar Valemount Lv		1 40	3 50		2.70
	◉	9 00	Lv McBride (6457) Ar		◉3 10	↑		
	◉	10 30	Ar Valemount Lv		◉1 40			
76	1 45	10 55	Lv Valemount Ar		1 30	3 50		2.70
92	f	f	Albreda		f	f		3.40
132	3 00	12 10	Ar Blue River Lv		12 15	2 35		4.65
132	3 00	12 45	Lv Blue River Ar		12 15	2 30		4.65
157	3 45	1 30	Ar Avola Lv		11 30	1 45		5.50
157	4 00	1 30	Lv Avola Ar		11 00	1 30		5.50
183	f	f	Vavenby Cor.		f	f		6.40
200	5 00	2 30	Ar Clearwater Lv		10 00	12 30		7.00
200	5 00	2 45	Lv Clearwater Ar		10 00	12 30		7.00
222	f	f	Little Fort		f	f		7.80
240	6 00	3 40	Barriere		9 00	11 30		8.40
279	7 00	4 40	Ar Kamloops, B.C. (PDT) CCw Lv		8 00	10 30		9.80
	↓	↑ 9 00	Lv Kamloops, B.C. CCw Ar		↑	↑ 4 20		
		↑10 55	Lv Merritt Ar			↑ 2 45		
		↑12 30	Lv Princeton GLC Ar			↑ 1 15		
		↑ 2 30	Lv Hope Ar			↑12 45		
		↑ 5 15	Ar Vancouver, B.C. Lv			↑ 7 30		
	7 20	5 20	Lv Kamloops GLC Ar		6 40	8 10		
	9 15	7 00	Lv Cache Creek Lv		5 30	3 50		
	2 30	11 50	Ar Vancouver, B.C. Lv		12 30	12 45		

READ DOWN EDMONTON—KAMLOOPS—OKANAGAN READ UP

				6456A 6-17-68					
.....	5 30	8 00	.....	Lv Edmonton, Alta. GLC Ar	10 25	12 55	.....	.....	.....
.....	11 45	1 30	.....	Ar Jasper, Alta. GLC Lv	5 00	7 00	.....	.....	.....
.....	12 01	.....	9 00	Lv Jasper, Alta. CCw Ar	3 25	5 45	.....	.....	.....
.....	1 45	.....	10 55	Lv Valemount, B.C. Ar	1 40	3 50	.....	.....	.....
.....	3 00	.....	12 45	Lv Blue River Ar	12 15	2 35	.....	.....	.....
.....	5 00	.....	2 45	Ar Clearwater Lv	10 00	12 30	.....	.....	.....
.....	7 00	.....	4 45	Ar Kamloops, B.C. CCw Lv	8 00	10 30	.....	.....	.....
9 20	9 00	.....	6 30	Lv Kamloops, B.C. GLC Ar	7 10	10 20	.....	.....	.....
▼	◉	.....	6 30	Lv Salmon Arm Ar	5 45	▲	.....	.....	.....
11 45	▼	.....	10 00	Lv Vernon Ar	.....	8 35	.....	.....	Via Princeton
1 00	◉	.....	11 00	Lv Kelowna Ar	.....	7 30	.....	.....	
2 10	2 55	.....	12 15	Ar Penticton, B.C. GLC Lv	.....	6 20	.....	.....	●

READ DOWN McBRIDE—VALEMOUNT READ UP

		908	Run Numbers 6457 6-17-68	910			
		WFS		WFS			
.....	.....	◉9 00	Lv McBride, B.C. (LT) Ar	6 43	10	.....	.....
.....	.....	◉9 45	Dunster Cor.	6 02	25	.....	.....
.....	.....	◉1020	Tete Jaune Jct.	◉1 50	.....	.....	.....
.....	.....	◉1030	Ar Valemount Lv	◉1 40	.....	.....	.....
.....	.....	*10 55	Lv Valemount (6456) Ar	* 1 30	.....	.....	.....
.....	.....	* 4 40	Ar Kamloops, B.C. Lv	* 8 00	.....	.....	.....

Schedule will not operate on Christmas Day. (LT)—Local Time.

(INTERNATIONAL BAGGAGE REGULATIONS: Refer to Page 4 for Important Customs Regulations.)

KAMLOOPS—PRINCETON—VANCOUVER

READ DOWN / READ UP

Run Numbers: 6458 — 4-28-68

	907 ExS	Mls		908 ExS	O.W. fare	O.W. fare
Schedule will not operate on Christmas and New Years day. (LT)—Local Time.	9 00	0	Lv ᵃ Kamloops, B.C. (LT) Ar	4 20	.00	5.25
	9 15	6	Knutsford	4 05	.30	5.25
	9 55	31	Rockford	3 45	1.65	3.90
	10 15	45	Quilchena	3 25	2.25	3.30
	10 25	54	Nicola	3 15	2.65	2.90
	10 40	61	Ar ᵍᵃ Merritt Lv	3 00	.75	2.50
	10 55	61	Lv ᵃ Merritt ᵍ Ar	3 00	.75	2.50
	11 19	76	Courtney Lake	2 40	1.40	1.80
	11 23	79	Aspen Grove	2 35	1.55	1.50
	12 15	119	Ar ᵃ Princeton, B.C. Lv	1 45	5.25	.00
	12 30		Lv *Princeton, B.C.* GLC Ar	11 45		
	5 15		Ar *Vancouver, B.C.* GLC Lv	7 30		

EDMONTON—PEACE RIVER—GRANDE PRAIRIE

DOWN / UP

Run Numbers: 6461 — 10-30-66

205	801	701	Mls		702	206	802	O.W. fare
9 00	11 45	11 45	0	Lv ᵃ Edmonton, Alta. (MST) Ar	6 15	4 45	10 45	.00
f		12 50	48	Gunn Cor				1.95
11 15	2 10	2 10	111	Ar ᵍᵃ Whitecourt Lv	3 45	2 30	8 20	4.50
11 45	2 25	2 25	111	Lv ᵃ Whitecourt ᵍ Ar	3 30	2 10	8 20	4.50
f		3 25	163	ᵻFox Creek	f			6.60
1 25	4 40	4 40	216	Ar ᵃ Valleyview Lv	1 15	12 10	5 55	8.75
1 45	4 45	4 45	216	Lv ᵃ Valleyview ᵍ Ar	1 05	11 55	5 55	8.75
2 05		5 05	220	Fish Creek Road	12 55			9.40
f		5 30	254	Gee Cor	12 19			10.20
2 45		5 45	262	Ar ᵃ Donnelly Jct. Lv	12 05	10 55		10.65
		5 25	264	ᵃ Falher	11 55		5 00	10.65
3 05			270	ᵃ McLennan		10 40		10.65
3 45		5 55	262	Lv ᵃ Donnelly Jct. Ar	11 45	10 25	4 40	10.65
3 45		6 25	283	ᵃ Nampa	11 20	9 55	4 25	11.45
4 05	6 30	6 45	301	Ar ᵍᵃ Peace River Lv	11 00	9 30	4 05	12.20

Run Numbers: 703 / 704

703	704			718	708	
7 00	0	Lv ᵃ Peace River Ar	10 45			.00
7 30	15	ᵃ Grimshaw	10 15			.65
7 45	22	ᵃ Berwyn	10 00			.95
7 53	29	ᵃ Brownvale Cor	9 48			1.25
f	37	Whitelaw Cor 1N	f			1.60
f	45	ᵻBluesky Cor ¼N	f			2.00
8 30	51	Ar ᵃ Fairview Lv	9 15			2.20

Run Numbers: 707 / 708

707	708			718	708	
8 45	0	Lv ᵃ *Fairview* CCW Ar		9 00	8 30	.00
9 15	20	Ar ᵃ *Hines Creek* Lv		8 30	8 00	.90
8 40	51	Lv ᵃ Fairview Ar	9 05			2.20
9 02	68	Dunvegan	8 48			2.90
9 20	82	Ar Rycroft Jct., Alta. Lv	8 30			3.40
9 05	86	ᵃ Spirit River, Alta.	7 50			3.60
9 33	86	ᵃ *Spirit River, Alta.* (6463) Ar		8 05		3.60
10 30	157	Ar ᵃ *Dawson Creek, B.C.* Lv		6 45		6.25
9 25	81	Lv Rycroft Jct., Alta. Ar	7 40			3.40
9 38	92	Woking Cor	7 28			4.00
9 53	111	ᵃ Sexsmith	7 05			4.65
10 15	123	Ar ᵃ Grande Prairie, Alta. Lv	6 50			5.20

PEACE RIVER—FT. VERMILION—HAY RIVER—YELLOWKNIFE

UP

Run Numbers: 6462 — 4-28-68

807-808 Dly	Mls		808 Dly		O.W. fare
11 45	0	Lv ᵃ *Edmonton, Alta.* Ar	10 45		.00
6 45	301	Ar ᵍᵃ *Peace River, Alta.* (6461) Lv	4 00		12.20
8 00	0	Lv ᵃ Peace River ᵍ Ar	3 30		.00
8 30	15	ᵃ Grimshaw	3 00		.65
8 50	33	ᵃ Chinook Valley	f		1.40
9 00	41	ᵃ Dixonville	f		1.80
9 35	68	Ar ᵃ Manning Lv	2 00		2.95
9 55	69	Lv ᵃ Manning ᵍ Ar	1 45		2.95
	72	Notikewin			3.10
	79	Hotchkiss			3.50
	122	Meikle River			3.70
11 05	131	Ar ᵍᵃ Keg River Cabins Lv	12 35		5.55
11 25	148	ᵃ Paddle Prairie	12 15		6.30
12 15	193	Ar ᵍᵃ High Level Lv	11 30		7.70

Run Numbers: 813 ExS / 814 ExS

813 ExS			814 ExS	O.W. fare
1 00	193	Lv ᵃ High Level ᵍ Ar	10 45	7.70
1 55	223	Rocky Lane	9 55	8.85
2 15	227	Boyer River	9 42	9.10
2 45	240	Ar ᵃ Ft. Vermilion Lv	9 00	9.60
12 45	193	Lv ᵃ High Level ᵍ Ar	11 00	7.70
1 30	236	ᵃ Meander River	10 05	9.80
2 00	284	ᵃ Steen River	9 10	11.75
2 30	332	Ar ᵍᵃ Indian Cabins Lv	8 50	12.40
3 05	302	Lv Indian Cabins ᵍ Ar	8 35	12.40
4 15	363	Ar Enterprise Lv	7 35	15.75
4 20	363	Lv Enterprise Ar	7 30	15.75
5 00	391	Ar ᵃ Hay River, N.W.T. Lv	7 00	17.00

Run Numbers: 811 TTS / 812 MTS

811 TTS			812 MTS	O.W. fare
3 30	0	Lv ᵃ Hay River, N.W.T. Ar	8 00	.00
4 15	28	Ar Enterprise Lv	7 30	.80
4 30	28	Lv Enterprise Ar	7 00	.80
6 25	114	Ar ᵍᵃ Ft. Providence Lv	5 05	3.30
6 45	114	Lv Ft. Providence ᵍ Ar	4 45	3.30
9 45	247	ᵻRae	1 45	8.75
11 30	222	Ar ᵃ Yellowknife, N.W.T. Lv	12 05	11.00

Notes: As the ferry service at Ft. Vermilion and Ft. Providence does not operate during spring and fall ice break-up, bus service may be disrupted. All passengers should check in at Edmonton depot before proceeding in April, June and September, December.

EDMONTON—ATHABASCA—WESTLOCK—HIGH PRAIRIE—PEACE RIVER—RYCROFT—DAWSON CREEK

READ DOWN / READ UP

10-29-67

Run Numbers: 6463

101 ExS	401 Dly	117 Dly	Mls		118 Dly	402 Dly	102 ExS	O.W. fare
5 30	10 00	8 00	0	Lv ᵃ Edmonton, Alta. Ar	9 30	6 20	10 50	.00
5 38				Clyde Cor			9 50	
5 58			47	ᵃ Clyde			9 45	1.95
6 08			57	Nestow Cor			9 40	2.20
6 13			63	ᵃ Tawatinaw			9 30	2.60
6 23			69	ᵃ Rochester			9 23	2.75
6 33			77	Perryvale Cor 1E			9 15	3.05
6 48			86	Meanook Cor 2E			8 55	3.40
6 58			90	ᵃ Colinton			8 45	3.60
7 45		9 50	98	Ar ᵍᵃ Athabasca Lv	7 30		8 30	3.80
		9 50	98	Lv ᵃ Athabasca ᵍ Ar	7 30			3.80
		f	103	Bap. Lake Cor	f			4.25
		f	108	Island Lake Cor	f			4.65
		10 50	128	Ar ᵃ Smith Lv	6 30			5.30
			45	Clyde Jct.				
	11 15		53	ᵃ Westlock		5 05		2.40
	f		53	ᵃ Westlock Jct. ᵍ		f		2.80
	11 22		60	Pibroch Cor 1W		f		3.15
	f		67	Dapp Cor 3W		4 28		3.50
	11 32		75	Jarvie Cor 1W		f		3.70
	f		83	ᵃ Fawcett		3 43		5.00
	12 47		93	Flatbush Cor 2W		f		5.00
		10 50	120	Hondo Cor				
			128	Lv ᵃ Smith Ar	6 30			5.30
	1 20	11 45	165	Ar ᵍᵃ Slave Lake Lv		3 05		6.80
	1 45	12 15	165	Lv Slave Lake ᵍ Ar		2 55		6.80
	f	12 22	179	ᵃ Conyon Creek		f		7.40
	2 40	01	195	ᵃ Kinuso ᵍ		2 20		8.05
	2 56	1 15	204	ᵃ Faust		2 05		8.40
	f	1 28	209	ᵃ Driftpile		f		8.85
	3 15	1 37	216	ᵃ Joussard Cor 1N		1 45		8.95
	f	1 51	225	Arcadia Cor 1S		f		9.25
	f	2 03	233	ᵃ Enilda		f		9.60
	3 50	2 15	240	Ar ᵃ High Prairie Lv		1 15		10.00

Run Numbers: 403 / 404

403	404			404	
4 05	0	Lv ᵃ High Prairie, Alta. Ar		1 00	.00
4 15	9	Triangle		f	.40
4 36	22	Kathleen		12 30	1.00
4 45	30	ᵃ McLennan		12 20	1.30
5 05	39	ᵃ Donnelly		f	1.65
5 10	40	Ar ᵃ ᵍ Donnelly Jct. Lv		12 05	1.70
		ᵃ *Falher* (6461)			
5 25	44			11 55	1.80
5 55	40	Lv ᵃ *Donnelly Jct.* Ar		11 50	1.70
6 25	67	ᵃ *Nampa*		11 20	2.60
6 45	85	Ar ᵃ *Peace River* (6461) Lv		11 00	3.35
6 15	0	Lv ᵃ Donnelly Jct. ᵍ Ar			.00
6 26	4	ᵃ Falher			.00
6 35	6	ᵃ Girouxville			.00
6 56	23	Watino Cor			.00
7 25	32	ᵃ Eaglesham			1.45
f	46	Belloy Cor 2N			1.85
8 05	53	ᵃ Wanham			2.15
8 25	66	Ar Rycroft Jct. Lv			2.75
8 40		Ar ᵍᵃ Spirit River Lv			
9 05		Lv ᵃ Spirit River Ar			
	67	ᵃ Ryecroft			2.75
9 25	67	Lv Rycroft Jct. Ar			2.75
9 33	71	ᵃ Spirit River			2.95
9 50	87	Blueberry Mtn. Cor 5N			3.60
10 08	101	Gordondale Cor			4.15
10 25	115	Bay Tree Cor., Alta.			4.70
10 33	125	Brier Rge Cor., B.C.			5.10
10 40	134	Riley Cross			5.25
10 50	142	Ar ᵃ Dawson Creek, B.C. Lv			5.60
9 25		Lv Rycroft Jct., Alta. Ar			
9 38		Woking Cor 3W			
9 53		ᵃ Sexsmith			
10 15		Ar ᵃ Grande Prairie, Alta. Lv			

DAWSON CREEK, B.C.—RYCROFT—FAIRVIEW—PEACE RIVER, ALTA.

READ DOWN / READ UP

3-1-65

Run Numbers: 6463A

Dly	Mls		Dly	O.W. fare
6 45	0	Lv ᵃ Dawson Creek, B.C. Ar	10 50	.00
f	6	Riley Crossing	f	.35
6 57	17	Brier Ridge, B.C.	10 33	.50
7 12	28	Bay Tree, Alta.	10 25	.90
7 25	41	Gordondale	10 09	1.45
7 41	55	Blueberry Mtn. Cor	9 50	2.00
7 58	71	Lv ᵃ Spirit River Ar	9 33	2.65
8 05	75	Ar ᵃ Rycroft Jct. Lv	9 25	2.85
8 05	75	Lv ᵃ Rycroft Jct. Ar	9 25	2.85
8 20	88	Dunvegan	9 08	3.40
8 40	105	Ar ᵃ Fairview Lv	8 48	4.05
8 55	105	Lv ᵃ Fairview Ar	8 30	4.05
f	111	ᵻBluesky Cor ¼N	f	4.30
f	119	Whitelaw Cor ⊥N	f	4.65
9 48	127	ᵃ Brownvale Cor	7 53	5.05
10 00	134	ᵃ Berwyn	7 45	5.35
10 15	141	ᵃ Grimshaw	7 30	5.65
10 45	156	Ar ᵃ Peace River, Alta. Lv	7 00	6.25

(INTERNATIONAL BAGGAGE REGULATIONS: Refer to Page 4 for Important Customs Regulations.)

Coachways

READ DOWN — MICA CREEK—REVELSTOKE — READ UP

Run Numbers → **6464** 5-27-68

505 Sun	505 ESN	Mls		ESN 506	Sun 506	O.W. fare
11 00	4 30	0	Lv Boat Encampment, B.C. (L.T.) Ar	1 15	8 40	
11 00	4 30	10	Ar Mica Creek Lv	12 45	8 10	
11 00	4 30	10	Lv Mica Creek Ar	12 30	7 55	2.50
10 50	4 20	20	Birch Creek	12 15	7 45	2.80
f	f	41	Goldstream	f	f	2.00
10 35	6 25	50	Ar Downie Creek Lv	11 20	6 50	1.45
f	f	76	Carnes Creek	f	f	.80
f	f	92	Silvertip Falls	f	f	.30
11 40	7 15	100	Ar Revelstoke, B.C. Lv	10 30	6 00	.00

Schedule will not operate on Statutory Holidays. (L.T.)—Local Time.

FT. ST. JOHN—HUDSON HOPE—PORTAGE MOUNTAIN—CHETWYND

READ DOWN — 10-30-66 — READ UP

Run Numbers → **6465**

807 Dly	805 Dly	Mls		808 Dly	806 Dly	O.W. fare
	7 00	0	Lv Fort St. John, B.C. (L.T.) Ar	10 00		.00
	7 21	5	Charlie Lake	9 50		.50
	7 41	13	Deep Creek	9 43		.90
	7 44	22	Bear Flats	9 05		1.20
	8 03	30	Attachie School	8 35		1.80
	8 20	45	Farrel Creek	8 20		2.10
	8 25	52	Lynx Creek	8 15		2.20
	8 35	55	Ar Hudson Hope Lv	8 10		2.20
	8 35	55	Lv Hudson Hope Ar	8 00		2.20
	8 55	89	Ar Portage Lv	7 40		2.75
	9 45	71	Ar Northern Camp Lv	7 30		
		0	Lv Hudson Hope Ar		4 30	.00
		40	Ar Chetwynd, B.C. Lv		3 00	2.00

READ DOWN — CALGARY—DAWSON CREEK—VANCOUVER — READ UP

6466 11-27-67

4 00	8 00	12 45	Lv Calgary, Alta. GLC Ar	11 15	9 15	5 30		
7 15	11 25	6 00	Ar Edmonton GLC Lv	8 00	6 00	12 30		
9 00	11 45	9 00	Lv Edmonton, Alta. CCW Ar	6 15	4 45	9 30		
11 45	2 25	11 45	Lv Whitecourt Lv	3 45	2 25	7 00		
3 50	6 45	7 30	Lv Grande Prairie, Alta. Lv	11 40	10 30	1 45		
5 40	8 35	9 20	Ar Dawson Creek, B.C. Lv	9 50	8 30	11 30		
	11 55	11 55	Lv Dawson Creek, B.C. Ar	8 00	6 30			
	8 25	6 45	Ar Prince George, B.C. Lv	10 00	11 45			
10 45	9 30		Lv Prince George, B.C. CCW Ar	7 30	10 45			
11 55	10 20		Ar Prince Rupert, B.C. CCW Lv	7 00	10 00			
11 45	7 30	8 15	Lv Prince George, B.C. GLC Ar	10 45	7 10			
1 00	8 45	10 00	Ar Vancouver, B.C. GLC Lv	8 00	5 30			

FAIRBANKS—WHITEHORSE—VANCOUVER—SEATTLE

READ DOWN — **6466A** 5-23-68 — READ UP

First daily thru trip Leave Fairbanks June 25		@9 00	Lv Fairbanks ACw Ar	@7 00				First daily thru trip Leaves Dawson Creek June 24
		@4 00	Lv Tok Jct. Lv	@11 30				
		@5 05	Ar Whitehorse CCw Lv					
		5 6 00	Lv Whitehorse Ar	@9 45				
		@1040	Ft. Nelson	7 45				
		@4 10	Ar Dawson Creek Lv	511 30				
		11 55	Lv Dawson Creek Ar	6 30	5			
		1 45	Chetwynd	4 50	3			
		6 25	Ar Prince George CCw Lv	11 45	10			
		7 30	Lv Prince George GLC Ar	10 45	7 30			
		9 40	Quesnel	8 30	6 00			
		8 45	Ar Vancouver GLC Lv	8 00	5 30			
		9 15	Lv Vancouver WGL Ar	6 10	3 50			
		12 15	Ar Seattle WGL Lv	2 15	12 15			

EDMONTON—WAINWRIGHT—CHAUVIN

DOWN — 1-4-68 — UP

Run Numbers → **6470**

143 Dly	Mls		144 ExS	144 Sun	O.W. fare
5 30	0	Lv Edmonton, Alta. Ar	11 25	9 30	.00
f	16	Bretona Cor.	f	f	.60
f	27	So. Cooking Lake	10 40	f	1.00
6 02	34	Lindbrook Cor.	10 25	f	1.55
6 45	39	Tofield Cor.	10 16	8 20	1.80
6 58	50	Ryley	10 00	8 03	2.30
7 10	61	Ar Holden Lv	9 50	7 50	2.60
7 25	61	Lv Holden Ar	9 37	7 37	2.60
7 55	70	Bruce	9 24	7 24	3.00
8 05	80	Viking	9 07	7 07	3.50
8 11	95	Kinsella	8 51	6 51	4.00
8 35	108	Irma	8 33	6 33	4.55
8 55	125	Wainwright	8 12	6 10	5.25
9 37	149	Edgerton	7 40	5 40	6.20
9 51	157	Chauvin	7 15	5 15	6.40
10 10	167	Ar Chauvin, Alta. Lv	7 00	5 00	6.95

DN EDMONTON—CAMROSE—ALLIANCE UP

Run Numbers → **6471** 5-16-68

151 Sun	151 Fri		152 Sat.	152 Sun	OW fare
1 30	5 30	Lv Edmonton, Alta. Ar	11 20	9 35	.00
f	f	Looma Cor.	f	f	1.00
d2220	d2220	New Sarepta Cor.	d11030	d9845	1.40
d2235	d2235	Hay Lakes Cor.	d11015	d9830	1.65
f	f	Armena Cor.	f	f	1.90
3 05	7 05	Ar Camrose Lv	9 45	8 00	2.40
3 15	7 20	Lv Camrose Ar	9 30	7 45	2.40
3 27	7 32	Obaton Cor.	9 18	7 34	2.75
3 36	7 45	Bawlf	9 06	7 22	3.05
3 47	7 57	Rosalind	8 54	7 10	3.30
f	f	Spring Lake	f	f	3.55
4 15	8 25	Heisler	8 26	6 40	3.80
4 35	8 45	Forestburg	8 08	6 24	4.55
4 55	9 05	Galahad	7 45	6 04	4.55
5 05	9 15	Ar Alliance, Alta. Lv	7 30	5 50	4.90

Note: When Monday is a holiday, there will be no bus on Sunday. Instead Sunday schedules will be operated on Monday.

Coachways

DOWN — EDMONTON—ALBERTA BEACH—WHITECOURT — UP

Run Numbers → **6467** (MST)

105 FSM	103 ExS	Mls	10-29-67	104 ExS	106 FSM	O.W. fare
8 00	6 00	0	Lv Edmonton, Alta. Ar	11 00	11 00	.00
8 00	6 00	38	Hillcrest Store	10 00	10 00	1.55
7 15		45	Alberta Beach		9 45	1.80
	7 05	41	Ar Oneway Lv	9 56		1.65
	7 05	41	Lv Oneway Ar	9 45		1.65
	7 03	48	Gunn Cor.	9 36		1.95
	6 53	56	Glenevis	9 24		2.25
	6 47	64	Cherhill	9 14		2.60
	6 37	69	Lisburn Cor.	9 07		2.80
	6 35	75	Sangudo	9 00		3.00
d6	6 20	82	Rochfort Bridge	8 47		3.30
	6 05	87	Mayerthorpe	8 35		3.50
	5 44	93	Greencourt	8 20		3.75
	5 35		Blue Ridge Cor.	8 10		4.20
	5 10	104	Blue Ridge	8 00		4.20
	5 15	119	Ar Whitecourt, Alta. Lv	7 45		4.50

EDMONTON—DRAYTON VALLEY—LODGEPOLE

READ DOWN — 11-27-67 — READ UP

Run Numbers → **6468**

115 Sun	115 ExS	Mls		116 ExS	116 Sun	O.W. fare
9 00	6 00	0	Lv Edmonton, Alta. Ar	10 10	7 55	.00
	6 30	40	Duffield	9 15	7 00	1.35
9 55	7 05	43	Wabamun	9 00	6 40	1.50
	7 40		Brightwood Cor.	8 35		2.20
	f		Moon Lake Cor.	f		3.05
10 35	8 05	91	Ar Drayton Valley Lv	8 10	5 45	3.45
10 35	8 20	91	Lv Drayton Valley Ar	8 00	5 35	3.45
f	f	98	Violet Grove Cor. 1/4 N.	f	f	3.75
11 25	8 58	114	Ar Lodgepole Lv	7 30	5 00	4.40

NOTE: When Monday is a Holiday, Sunday Service will be operated.

EDMONTON—BRETON—RIMBEY

READ DOWN — 11-27-67 — READ UP

Run Numbers → **6469**

107 Sun	107 ExS	Mls		108 ExS	108 Sun	O.W. fare
9 00	6 00	0	Lv Edmonton, Alta. Ar	10 55	7 45	.00
9 40	6 40	21	Leduc	f	f	
9 50	6 50	31	Calmar	10 02	8	1.25
10 10	7 10	43	Thorsby	9 45	8	1.80
f	7 25	50	Sunnybrook	f	f	2.15
10 27	7 42	58	Warburg	9 23	8 15	2.55
10 42	7 57	63	Alsike Cor.	9 10	8	2.55
10 55	8 10	69	Ar Breton Lv	9 00	8	2.80
11 05	8 20	69	Lv Breton Ar	8 50	8	2.80
11 35	8 50	80	Winfield	8 32	8	3.30
f	9 45		Hoadley	8 20	5 22	3.70
f	f	99	Bluffton Cor. 1 E.	f	f	4.10
11 35	9 05	108	Ar Rimbey, Alta. Lv	8 00	5 00	4.50

NOTE: When Monday is a Holiday, Sunday Service will be operated.

EXPLANATION OF REFERENCE MARKS SHOWN BESIDE TABLE 6481

DN — EDMONTON—TWO HILLS—MARWAYNE — UP

Run Numbers → **6472** 4-28-68

141 Dly	Mls		142 ExS	142 Sun	OW fare
5 30	0	Lv Edmonton, Alta. Ar	11 00	8 50	.00
f	29	Elk Island Cor.	f	f	
6 25	31	Bruderheim	10 30	8 30	1.40
f	47	Star Cor. 4E.	f	f	1.90
6 52	54	St. Michael Cor. 4S	10 08	8 08	2.15
f	56	Wostok Cor. 3 S.	f	f	2.40
7 10	65	Andrew	9 50	7 50	2.65
7 30	79	Willingdon	9 32	7 32	3.15
d7 42	88	Hairy Hill	9 21	7 21	3.50
f	90	Kaleland Cor. 2 S.	f	f	3.65
8 05	102	Ar Two Hills Lv	9 00	7 00	4.00
8 20	102	Lv Two Hills Ar	8 48	6 48	4.00
f	111	Musidora	f	f	4.25
f	116	Morecambe	f	f	4.50
8 48	120	Beauvallon	8 21	6 21	4.65
8 58	132	Myrnam	8 11	6 11	4.90
9 16	145	Derwent	7 54	5 54	5.35
9 27	150	Rusylvia Cor. 1 S.	7 44	5 44	5.60
f	157	Clandonald Cor. 2 S.	f	f	5.80
d9 52	165	Dewberry	7 19	5 19	6.25
9 58	168	Hazeldine Cor. 1 S.	7 13	5 13	6.40
10 15	177	Ar Marwayne, Alta. Lv	7 00	5 00	6.80

Coachways

EDMONTON—HARDISTY—MACKLIN

DOWN | 1-4-68 | READ UP | TARIFF

147 Dly	145 ExS	Mls	← Run Numbers → 6473	148 ExS	146 Dly	148 Sun	OW fare	OW fare
5 30	1 30	0	Lv *Edmonton, Alta. Ar	11 20	9 30	....		.00
6 30	2 30	43	*Wetaskiwin	10 22	d9 35	....	.00	
f6 43	f	51	Gwynne	f1009	f	....	.40	2.00
f6 52	f	58	Bittern Lake Cor	f1000	f	....	.70	2.30
7 07	3 10	68	Ar *Camrose Lv	9 28	7 45	....	1.05	2.40
7 22	3 25	68	Lv *Camrose Ar	f9 16	f	....	1.40	2.75
f7 33	f	76	Ohaton Cor	f	f	....	1.40	2.75
7 45	3 46	85	*Bawlf	9 04	7 24	....	1.75	3.05
7 58	3 56	94	*Daysland	8 50	7 13	....	2.10	3.40
8 12	4 10	103	*Strome	8 37	7 02	....	2.50	3.80
8 24	4 20	112	*Killam	8 25	6 51	....	2.85	4.20
8 34	4 30	119	*Sedgewick	8 14	6 40	....	3.20	4.50
8 44	4 46	126	*Lougheed	8 04	6 30	....	3.40	4.75
f8 51	f	132	Bott	f7 56	f	....	3.65	5.00
9 03	5 00	138	Ar *Hardisty Lv	7 45	6 15	....	3.90	5.20
9 08	....	138	Lv *Hardisty Ar	7 36	....	5 56	3.90	5.20
f9 18	....	144	Rosyth	f7 27	....	f5 49	4.05	5.40
9 30	....	150	*Amisk	7 16	....	5 37	4.40	5.75
9 38	....	157	*Hughenden	7 09	....	5 29	4.60	5.95
9 51	....	166	*Czar	6 57	....	5 16	5.00	6.35
f10 02	....	173	Hartlib Cor	f6 46	....	f5 10	5.15	6.45
f10 08	....	178	Metiskow Cor 2 S	f6 42	....	f5 05	5.30	6.60
f10 17	....	188	Cadogan Cor 6 S	f6 32	....	f4 56	5.70	7.00
10 30	....	197	*Provost	6 20	....	4 40	6.00	7.30
f10 38	....	204	Hayter Cor., Alta	f6 12	....	f4 30	6.20	7.55
10 50	....	214	Ar *Macklin, Sask. Lv	6 00	....	4 15	6.60	7.95

On all services except Macklin (6473), Alliance (6471) and Red Deer–Rimbey (6475), Sunday service will be operated when Monday is a Holiday. On Macklin, regular weekday service is provided on Mondays that are Holidays. On the Alliance line, Sunday's bus is cancelled; a special bus operates on the Monday Holiday, running on Sunday's times. On the Red Deer–Rimbey line, regular Monday-Thursday-Saturday service is operated when Monday is a Holiday. Check with your agent before planning a trip, as special holiday buses are often added.

DOWN RED DEER—SYLVAN LAKE—ROCKY MT. HOUSE UP

161 Dly	163 ExS	Mls	← Run Numbers → 6474 11-27-67	162 ExS	164 Dly			O.W. fare
6 30	1130		Lv *Calgary, Alta. GLC Ar	1130	1925	....	....	
6 30			Lv *Edmonton GLC Ar	1145	1925	....	....	
8 30	1 45	0	Lv *Red Deer, Alta. Ar	8 50	8 05	....	....	.00
9 00	2 15	15	*Sylvan Lake	8 25	7 48	....	....	.60
9 10	2 25	24	Benalto Cor. 3 S	f	f	....	....	.95
9 20	2 35	28	*Eckville Cor. 3 N	8 05	7 20	....	....	1.20
9 24	2 34	32	*Hespero Cor. ½ N	7 59	7 14	....	....	1.25
9 28	2 48	36	*Condor Cor. ½ N	7 54	7 09	....	....	1.40
9 34	2 43	41	*Alhambra Cor. 1 N	7 46	7 01	....	....	1.60
9 37	2 46	48	Arbutus Cor. 1 N	7 40	6 55	....	....	1.90
9 50	3 05	54	Ar *Rocky Mt. House Lv	7 30	6 45	....	....	2.15

Note: When Monday is a Holiday Sunday service will be operated.

READ DOWN RIMBEY—LACOMBE—RED DEER—CALGARY READ UP

109 FSu	109 MTS	Mls	← Run Numbers → 6475 11-27-67	110 MTS	110 FSu			O.W. fare
7 00	9 00	0	Lv *Rimbey, Alta. Ar	6 30	9 45	....	....	.00
f	f		Forshee	f	f	....	....	.65
7 20	9 20	15	sBentley	6 10	9 25	....	....	.90
f	f	21	Aspen Beach	f	f	....	....	.90
7 45	9 45	29	Lv *Lacombe Ar	5 45	9 00	....	....	1.25
f	f	37	Blackfalds	f	f	....	....	1.50
8 15	10 15	44	Ar *Red Deer, Alta Lv	5 15	8 30	....	....	1.85
8 35	12 05		Lv *Red Deer, Alta (GLC) Ar		6 20	....	....	
10 25	2 05		Ar *Calgary (GLC) Lv		6 30	....	....	

Note: When Monday is a Holiday, Sunday service will be operated.

EDMONTON—CAMROSE

READ DOWN | 4-28-68 | READ UP

Fri	Dly	Dly	Sun ✠	ExS	← Run Numbers → 6476	ExS	Sat.	ExS	Sun	Dly	Sun ✠	OW fare
5 30	5 30	5 30	1 30	1 30	Lv *Edmonton, Alta. Ar	1120	11 20	1210	4 10	9 25	9 35	.00
▼	▼	6 30	▼	2 30	Lv *Wetaskiwin Lv	1022	▲	↑	↑	▲	▲	
d5 55	f	▼	d7 35	▼	Lv *Hay Lakes Cor Lv	▲	d10 15	↑	↑	↑	d11 20	1.65
7 05	7 00	7 07	3 05	3 10	Ar *Camrose, Alta. Lv	9 45	9 45	1045	2 45	8 00	8 00	2.40

On long weekends, when Monday is a Holiday, the 1 30 PM Sunday only Edmonton to Camrose bus and the 8 00 PM Sunday only Camrose to Edmonton bus (via Hay Lakes Corner) will not operate. Instead, a special bus will be run on Monday following the Sunday times. Also note that when Monday is a Holiday, the Except Sunday 10 45 AM bus for Edmonton is cancelled, being replaced by one at 2 45 PM.

Coachways System
15205-112 AVE., EDMONTON, ALTA.
TELEPHONE 484-5541 TELEX 037-2956

Coachways

EDMONTON—ELK POINT—COLD LAKE

READ DOWN | 4-30-67 | READ UP

139 Dly	137 Dly	135 ExS	Mls	← Run Numbers → 6477	140 ExS	138 ExS	136 Dly	136 Sun	OW fare
6 00	6 00	f1150	12	Lv *Edmonton, Alta. Ar	10 50	10 56	10 25	3 45	.00
	f	f	14	Namao Cor		f	f1008		
		f1204	23	Bon Accord		f	f	f3 17	.50
	6 35	f1208	25	*Gibbons		f	f9 53		1.00
	f	f1212	28	Coronado Cor 1 E		10 15	f9 49	3 08	1.00
	f	f1224	37	Redwater Cor 1 E		10 18	f9 45	f3 04	1.15
	f	f1240	49	Egremont Cor 2 N		fhs	f9 32	fhs	
	7 10	12 41	50	*Radway		9 55	f	f2 46	
	7 20	12 50	57	*Waskatenau		9 44	9 15	fhs	1.70
	f	f1258	63	*Warspite Cor 1 B		9 33	9 04	fhs	1.95
7 35	f	1 10	72	Ar *Smoky Lake Lv	9 20	9 22	8 53	f2 15	2.15
7 45		1 25	72	Lv *Smoky Lake Ar	9 05	9 02	8 43	2 04	2.30
f7 51	f	f1 31	77	Kotzman Cor		8 54	f8 36	1 54	2.65
f7 57	f	f1 39	83	Edwand Cor 2 N		8 46	f8 17	1 46	2.85
	s 12	1 57	97	*Bellis Cor 2 N		8 38	f	1 38	3.00
	s 23	2 08	105	*Vilna		8 24	7 57	1 23	3.10
	s 33	2 18	112	*Spedden		8 09	7 45	1 09	3.80
f8 33	f	f2 28	120	*Ashmont Cor ¼ N	f8 21	f7 59	7 35	f1 25	3.80
	9 05	2 37	127	St. Brides Cor		7 45	f7 24	12 44	4.10
	9 20	2 47	127	Ar *St. Paul Lv		7 32	7 15	12 34	4.10
	f	f2 59	136	Lv *St. Paul Ar		7 32	7 05	12 24	4.10
	9 50	f3 20	150	La Bre Cor		7 20	f6 53	12 12	4.60
				Shamrock Cor		7 07	f6 39	12 00	4.75
				*Elk Point		7 00	6 30	11 50	5.00
				North Long Lake			f6 31		5.00
f8 52				Mallaig Cor 2 N	f8 06				4.15
f8 58				Therien Cor 3 N	f8 00				4.30
f9 05				*Glendon Cor 4 N	f7 53				4.45
f9 21		f3 33	162	*Eastbourne Cor	f7 37		f6 18		5.00
9 35		3 43	170	*Bonnyville	7 25		6 06		5.00
f9 47		3 53	178	*Fort Kent Cor	f7 13		5 55		5.26
f9 52		4 02	185	Ardmore Cor	7 08		5 46		5.45
f10 03		f4 15	195	R. C. Mission	f6 57		f5 38		5.70
f10 05		f4 18	200	*Beaver Crossing	f6 55		f5 36		5.80
10 10		4 26	205	*Grand Centre	6 50		5 32		5.80
10 20		4 34	205	*Medley Airbase	6 40		5 22		5.80
10 30		4 50	209	Ar *Cold Lake, Alta. Lv	6 30		5 10		5.75

EDMONTON—BOYLE—LAC LA BICHE—FT. McMURRAY

READ DOWN | 1-4-68 | READ UP

129 Dly	131 Dly	Mls	← Run Numbers → 6478	132 ExS	132 Sun	130 Dly	O.W. fare
4 30	6 15	0	Lv *Edmonton, Alta. Ar	11 25	8 55	1 20	.00
		12	Namao Cor	f	f		.55
	6 52	23	*Bon Accord	10 45	8 15		1.00
	f7 00	28	Fedorah Cor	f1038	f8 08		1.20
	7 19	37	*Redwater	10 19	7 48		1.65
	7 32	49	*Egremont	10 06	7 36		1.95
	7 47	58	*Thorhild	9 54	7 24		2.30
	8 00	69	*Abee Cor	9 39	7 09		2.70
	8 11	77	*Newbrook	9 26	6 58		3.00
	f8 28	93	Elliott Cor	f9 12	f6 42		3.45
	f	101	Five Mile Cor	f	f		3.70
	8 45	106	Ar *Boyle Lv	8 56	6 26	11 20	3.95
6 25	8 55	106	Lv Boyle Ar	8 46	6 18		3.95
	f9 08	117	*Donatville	f8 32	f6 02		4.35
	9 23	126	*Grassland	8 18	5 48		4.75
	f9 33	132	*Atmore	f8 11	5 41		4.95
	9 48	140	*Plamondon	7 57	5 27		5.30
	10 20	157	Ar *Lac La Biche, Alta. Lv	7 30	5 00		6.00
			Charron			f	5.45
7 25		141	Ar Wandering River Lv			10 20	6.05
7 55		141	Lv Wandering River Ar			10 00	6.05
10 30		294	Ar *Ft. McMurray, Alta. Lv			7 30	11.15

EDMONTON—BARRHEAD—FT. ASSINIBOINE—SWAN HILLS

DOWN | 1-4-68 | READ UP

125 ExS	127 Dly	Mls	← Run Numbers → 6479	128 ExS	126 ExS	128 Sun			O.W. fare
1 30	5 30	0	Lv *Edmonton, Alta. Ar	10 55	7 55	9 25	....	....	.00
f	f	10	St. Albert, Cor	f	f	f	....	....	.40
6 05	6 05	22	*Morinville	10 20	7 20	8 45	....	....	.90
f	f	32	sLegal	f	7 05	f8 32	....	....	1.40
f	f	41	sVimy Cor	f	f6 53	8 20	....	....	1.70
f6 47	f6 40	47	Clyde Cor 2E	9 44	f6 45	8 12	....	....	1.90
6 58	6 52	56	Ar *Westlock Lv	9 35	6 36	8 03	....	....	2.20
7 05	s		Lv *Westlock Ar	9 35	6 36	7 55	....	....	2.20
f7 13	f	61	Hazelbluff Cor	f	f	f	....	....	2.40
f7 21	f	66	Rossington Cor	f	f6 21	f	....	....	2.60
f7 31	f	73	Freedom Cor	f	f	f	....	....	2.85
7 45	7 30	82	Ar *Barrhead Lv	9 00	6 00	7 20	....	....	3.20
	7 40	82	Lv *Barrhead Ar	8 50		7 20	....	....	3.20
	s 03	99	Camp Creek Cor	8 20		f	....	....	3.70
	s 17	109	*Ft. Assiniboine Cor	8 15		6 48	....	....	4.15
	8 10	147	Ar *Swan Hills, Alta. Lv	7 25		6 00	....	....	5.65

(INTERNATIONAL BAGGAGE REGULATIONS: [illegible] Important Customs Regulations.)

Coachways

DOWN CALGARY—THREE HILLS—STETTLER—CONSORT UP

Run Numbers 6480 — 4-28-68

158 Dly	Mls	(MST)	160 ExS	160 Sun	O.W. fare
8 15		Lv *Great Falls, Mont.* (MDT) INT Ar			
1 15		*Lethbridge, Alta.* (MST) GLC	5 45	9 15	
4 30		Ar *Calgary, Alta.* GLC Lv	12 30	6 00	
11 15	0	Lv **Calgary Alta.** Ar	12 25	4 25	.00
11 32	40	Irricana Cor.			
11 37	48	Beiseker Cor.			
11 43	55	ᴬAcme	11 15	3 15	2.20
11 49	62	ᴬLinden	11 00	3 00	2.55
11 56	69	Swalwell Cor. 2S	10 50	2 50	2.80
12 03	73	Twining Cor.	10 43	2 43	3.00
12 20	80	Ar ᴬ**Three Hills** Lv	10 35	2 35	3.25
12 35	80	Lv **Three Hills** Ar	10 20	2 20	3.25
12 50	88	ᴬTrochu	10 05	2 05	3.60
12 57	95	Huxley ½E	9 53	1 53	3.80
1 08	102	ᴬElnora Cor. 2E	9 48	1 48	4.05
1 16	110	Lousana Cor. 1E	9 38	1 38	4.40
1 25	119	ᴬDelburne	9 30	1 30	4.60
1 32	127	Ardley Cor. 2N	9 23	1 23	4.90
f	133	Content Bridge	f	f	5.20
f	139	ᴬNevis	9 00	1 00	5.50
f	147	ᴬErskine	8 53	12 53	5.80
2 15	156	Ar ᴬ**Stettler** Lv	8 45	12 45	6.10
2 30	156	Lv ᴬ**Stettler** Ar	8 30	12 30	6.10
2 42	162	ᴬBotha ½N	8 12	12 12	6.50
2 49	170	Gadsby Cor. 1½N	8 02	12 02	6.75
2 58	179	ᴬHalkirk	7 53	11 53	7.15
3 07	187	ᴬCastor	7 35	11 35	7.55
3 24	195	Fleet Cor. ½N	7 23	11 23	7.90
3 32	200	Federal Cor. ½N	7 13	11 13	8.20
3 47	205	ᴬ**Coronation**	7 05	11 05	8.40
3 55	214	Throne Cor.	6 48	10 48	8.70
4 05	225	ᴬVeteran	6 40	10 40	9.02
4 20	235	Loyalist Cor. 2S	6 23	10 28	9.35
4 40	242	Ar ᴬ**Consort, Alta.** Lv	6 20	10 20	9.65

Note: When Monday is a Holiday, Sunday service will be operated.

EDMONTON—CAMROSE—STETTLER—CONSORT

READ DOWN — 4-28-68 — READ UP

Run Numbers 6481

153 Mls		154 ExS	154 Sun	O.W. fare
0	Lv ᴬ**Edmonton, Alta.** Ar	12 10	4 10	.00
24	Looma Cor.	f	f	1.00
34	ᴬNew Sarepta Cor.	f	f	1.40
41	ᴬHay Lakes Cor.	11 04	3 04	1.65
47	Armena Cor.	f	f	1.90
59	Ar ᴮᴴ**Camrose** Lv	10 45	2 45	2.40
59	Lv ᴬ**Camrose** ‖ Ar	10 35	2 35	2.40
62	Duhamel	10 14	2 14	2.50
66	ᴬ**New Norway**	10 10	2 10	2.60
73	ᴮFerintosh Cor.	10 03	2 03	2.95
85	ᴮBashaw	9 43	1 43	3.40
96	Mirror Cor.	9 26	1 26	3.85
107	Alix	9 15	1 15	4.30
108	ᴬNevis	9 00	1 00	4.35
115	ᴬErskine	8 53	12 53	4.60
123	Ar ᴮᴴ**Stettler** Lv	8 45	12 45	4.95
123	Lv ᴬ**Stettler** ‖ Ar	8 30	12 30	4.95
132	ᴬBotha	8 12	12 12	5.35
139	Gadsby Cor.	8 02	12 02	5.60
149	ᴬHalkirk	7 53	11 53	6.00
159	ᴬCastor	7 35	11 35	6.40
167	Fleet Cor.	7 23	11 23	6.75
175	Federal Cor.	7 13	11 13	7.05
180	ᴬ**Coronation**	7 05	11 05	7.25
188	Throne Cor.	6 48	10 48	7.55
196	ᴬVeteran	6 40	10 40	7.90
204	Loyalist Cor.	6 28	10 28	8.20
213	Ar ᴬ**Consort, Alta.** Lv	6 20	10 20	8.50

NOTE: When Monday is a Holiday, Sunday Service will be operated.

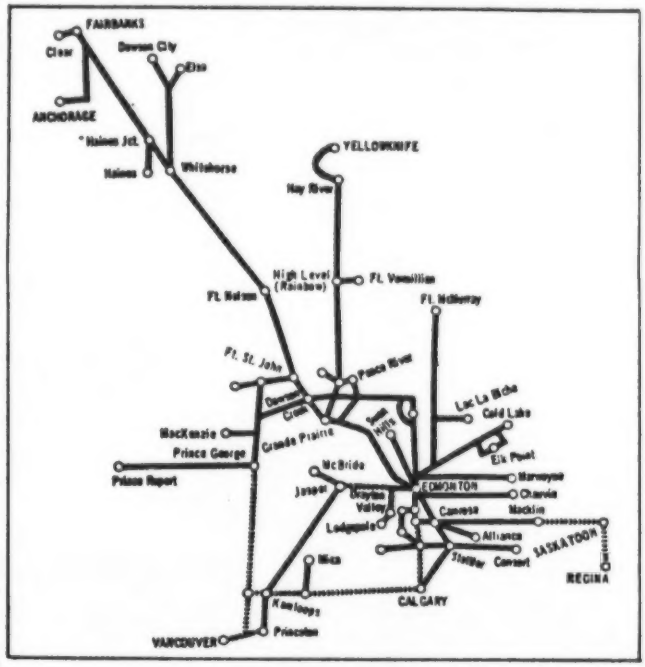
DOWN RED DEER—LACOMBE—STETTLER—CONSORT UP

Run Numbers 6482 — 4-28-68

157 Dly	Mls		158 ExS	158 Sun	O.W. fare
7 45	0	Lv ᴬ**Red Deer, Alta.** Ar	10 15	2 15	.00
8 03	18	Lv ᴬLacombe Lv	9 56	1 56	.60
8 20	28	ᴬClive ½N	9 37	1 37	1.15
8 35	35	Tees Cor. ½N	9 28	1 28	1.30
8 42	45	ᴬAlix	9 20	1 20	1.60
8 48	52	ᴬNevis	9 05	1 05	2.00
9 00	60	ᴬErskine	8 58	12 58	2.25
9 15	68	Ar ᴬ**Stettler** Lv	8 45	12 45	2.60
9 30	68	Lv ᴬ**Stettler** Ar	8 30	12 30	2.60
11 45	156	Ar ᴬ**Consort, Alta.** Lv	6 20	10 20	6.10

Note: When Monday is a Holiday Sunday service will be operated.

Coachways



REFERENCE MARKS

OF STATIONS AND MEAL STOPS

‖—Rest stop or Meal stop.
ᴬ—Bus station-tickets and express.
ᴮ—Bus station-express only.
ᴅ—Bus station-provides only a drop-off service for prepaid express.

SERVICE TO SMALL TOWNS

d—Bus goes into town at this time only when there are passengers on board for this point.
hs or ᴴ—Highway stop-bus does not go into town.
‡—Schedule goes into town.
f—Flag stop-bus stops on signal.
Fraction and direction (example ½ N) refer to distance of highway stop from town.
A—An arrow beside a town means that the bus does not stop there on that trip.

DAYS OF SERVICE

All runs are operated daily unless otherwise noted at the top of each column of times.

The symbols Dly or * may sometimes appear to indicate daily service. Other symbols are:

MTS—Mondays, Thursdays and Saturdays.
TSM or ✱—Thursdays, Saturdays and Mondays.
WFS or ●—Wednesdays, Fridays and Sundays.
TTS or §—Tuesdays, Thursdays and Saturdays.
ξξS or WD—Daily except Saturdays and Sundays.
MTWT—Mondays, Tuesdays, Wednesdays and Thursdays.
MWFS—Mondays, Wednesdays, Fridays and Saturdays.
ξxH—Daily except Saturdays, Sundays and Holidays.
Sun—Sundays only.
WF—Wednesdays and Fridays.
FSu—Fridays and Sundays.
MW—Mondays and Wednesdays.
ExS or †—Daily except Sundays.
SS—Saturdays and Sundays only.
‡‡H—Saturdays, Sundays & Holidays.
FSM—Fridays, Saturdays & Mondays.
MWF—Mondays, Wednesdays and Fridays.
FSM—Daily except Sunday & Monday.
ξξH—Daily except Sundays & Holidays.
ξMW—Daily except Monday & Wed.
▲—Operates May 22-June 23.
●—Operates June 25-Sept. 4.
■—Operates June 25-Sept. 6.
▼—When Monday is a holiday, this trip will not be operated.
✚—When Monday is a holiday (i.e., a long weekend), there will be no bus on Sunday, instead, a special bus will be operated Monday on these (Sunday) times.

TIME ZONES

(MST)—Mountain Standard Time.
(MDT)—Mountain Daylight Time.
(PST)—Pacific Standard Time.
(PDT)—Pacific Daylight Time.
(LT)—Local Time.
(AlT)—Alaska Standard Time.
(YET)—Yukon Eastern Time.
(YWT)—Yukon Western Time.

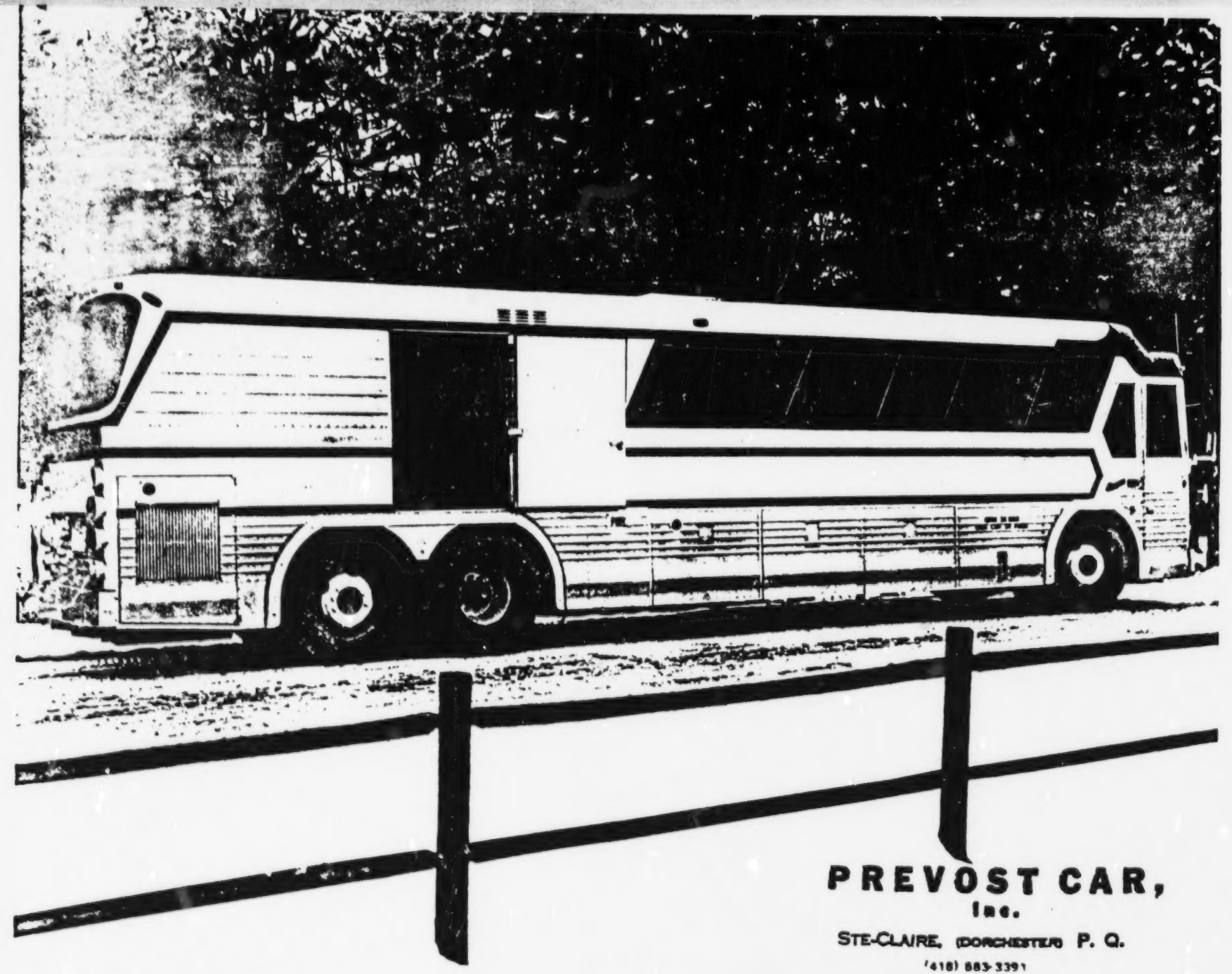
MISCELLANEOUS

CCw—Coachways System.
GLC—Greyhound Lines of Canada.
IMT—Intermountain Transp. Co.
ACw—Alaskan Coachways.
AM—Light Face.
PM—Bold Face.

Times shown in ITALICS indicate service via connecting trip or trips.

APPENDIX B

PREVOST CAR INC.



PREVOST CAR,
Inc.

STE-CLAIRE, (DORCHESTER) P. Q.

(418) 883-3391

PREVOST CAR
Inc.

STE-CLAIRE, (DORCHESTER) P. Q.

(418) 883-3391

CONDENSED SPECIFICATIONS

PREVOST CAR, Inc.

STE-CLAIRE, (DORCHESTER) P. Q.

(418) 883-3301

POWER PLANT. Assembly is mounted longitudinally at rear on three points. It can be removed as a unit or the transmission can be removed separately for clutch replacement.

ENGINE. Detroit Diesel 8V-71N of 318 H.P. (w/ N-65 injectors). Governed at 2150 RPM and equipped with automatic shut down, overule switch and fast idle.

TRANSMISSION. Spicer 8844-A four-speed direct drive. Floor mounted shifter, and one-rod remote control. Maximum cruising speed of 70 M.P.H. Dipstick for changing oil and handy oil reservoir. 5-speed with emergency low or Allison 740 available.

CLUTCH. Long model 215, double disc 15 in. with mechanical control. Adjustment easily accessible from engine compartment for inspection and service.

DRIVE SHAFT. Spicer series 1700 with regulation guard.

AXLES : Rockwell Standard.
Model 2865 of 14,000 lbs capacity front.
Model R-114 of 22,000 lbs capacity rear.
Trailing axles; stub type with brake parts hu and hubs interchangeable with front axle. Stemco oil seals or grease seals.

MUFFLERS. Two aluminized steel mufflers mounted to engine. Very short tail pipes.

SUSPENSION. Goodyear rolling lobe type air bellows on all three axles. Wide base mounting at rear for improved stability. All rods have replaceable type bushings. Delco 1-¾ in. telescopic shock absorbers. Third axle has adjustable air pressure.

BRAKES. Bendix-Westinghouse dual brake system to DOT and state regulations. Tu-Flo 600, 14.5 c.f.m. compressor is flange mounted and driven by engine camshaft. Bearing equipped. W type brakes with 14½ in. drums 10 in. wide at driving axle and 6 in. at front and third axle. DD-3 brake. Alcohol evaporator and automatic heating Expello valve. Automatic slack adjusters and after-cooler available.

STEERING. Ross steering box and 22 in. wheel. Air or hydraulic assist.

RADIATOR. Fin and tube radiator and air shutter on L.H. side isolated from body vibrations. Fan is V-belt driven through angle drive gear box. Thermostatic air clutch available. Perry filter and permanent antifreeze.

ELECTRICAL. Delco Remy 24-volt A.C. generator of 250 amps capacity. V-belt drive equipped with an automatic air operated tensioner. All transistor regulator.

LIGHTING. All interior and exterior regulation lights including sealed back-up and fog lamps.

STARTER. Delco-Remy 24-volt with control on dash and in engine compartment.

WIRING. 24-volt system. Circuits protected with automatic reset circuit breakers located in compartments below driver's window with exterior access door.

INSTRUMENTS. Stewart Warner ammeter, dual oil pressure, temperature and air pressure gauges, Argo tachograph and hubodometer. Electronic speedometer available.

BATTERY. Two (2) Hart 25-plate, 12 volts, 205 amp. mounted in left rear compartment.
WHEELS & TIRES. Nine (9) disc type wheels supplied for 11.00 X 20 tube tires or for 12.5-22.5 tubeless tires. Sliding carrier in front compartment for the spare tire and wheel assembly.

SAFETY EQUIPMENT. Tell-tale lights and audible warning signal for lo-air, lo-oil and high temperature. Motoguard, fast idle, starter interlock. Automatic Fire alarm. Water level sensor available.

LAVATORY. Aircraft type odorproof toilets and stainless steel bowl. Wash basin with gravity tank. Air toilet available.

RADIO. AM radio and public address with six (6) roof speakers. Tape player and FM radio available.
OIL RESERVE TANK to add oil to engine crankcase and to transmission.

WIPERS. Two (2) Jumbo Sprague with H.D. pantograph arms. Exterior service. Electric windshield washers.

MIRRORS. One exterior 9 X 9 in. on each side, H.D. and fully adjustable. One interior 16 X 5 in padded and adjustable sun visor.

DESTINATION SIGN. Located above windshield. Mylar curtain with room for 30 names. Side destination sign available.

ACCESSORIES. Dry chemical fire extinguisher. First aid kit. Deluxe push-button passenger chime. Dual electric and air horns. Hydraulic jack and wheel nut wrench.

BODY CONSTRUCTION. Integral monocoque type construction with an electrically welded structure of hi-tensile and stainless steel members. Stainless steel is used extensively below floor level such as for under-engine panels, for wheelwells and for the flooring in baggage, battery and spare tire compartments.

1½ in. polyurethane insulation all around in combination with vapor seal. Special lead combination noise insulation is used for the engine compartment with fire wall.

EXTERIOR. All lower panels are fluted stainless steel, with riveted lapped joints. Wraparound type stainless steel bumpers. Molded flame resistant fiberglass reinforced plastic is used in front and rear upper panels.

INTERIOR. RCA rubber flooring and steptreads. All exposed surfaces such as floor pedestal, heat ducts, footrests, etc., are stainless steel. All roof and side wall panels are Arborite or Formica with stainless steel snap-on moulding. All side walls above arm rest level are heavily padded and attractively covered as is the edge of the parcel rack.

WINDOWS AND WINDSHIELD. Panoramic curved windshield of laminated safety plate mounted in rubber in two interchangeable halves. Sliding driver's window with thermopane available.

Curved glass side windows in a wide range of tints and shades. Four of the windows on each side are push-out and fitted with positive locks. Four roof skylights provided that can be used as emergency ventilators.

SEATS. All seats fully reclinable including the rear lounge seats. Capacity with toilets is 47. Seating capacity of 51 available. Stainless steel seat base, armrests and footrests. Nylon bushings used at all pivot points. Adjustable pillows of genuine Canadian goose down. Clutch type reclining mechanism. Two revolving seats with wall mounted card tables.

HEATING, DEFROSTING AND AIR CONDITIONING. Central heating system with 153,000 B.T.U. rating. Air distribution through ducts and side walls. High capacity circulation pump. Thermostatically controlled independant driver's A/C and heater built-in with defroster assembly. Carrier H.D. air conditioning system with 3-cylinder unloading compressor V-belt driven. Evaporator combined with central heating system. Cooled air reheat.

LUGGAGE. Interior parcel racks over seats. Four large capacity baggage compartments under the floor. Doors equipped with all rubber hinges and stainless steel handles. Stainless steel flooring for all compartments.

GENERAL DIMENSIONS :

Length over bumpers (max.)	40 ft.
Wheelbase	280 in.
Width	102 in. and 96 in.
Height, overall (max.)	131 in.

Specifications subject to change without notice.

Printed in Canada